Robinson+Cole

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Also admitted in Massachusetts and New York

June 24, 2024

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
104 Prospect Hill Road, East Windsor, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above referenced property (the "Property"). The facility consists of antennas and remote radio heads attached to a water tank and related equipment on the ground near the base of the tank. The Council, most-recently approved modifications to Cellco existing facility in June of 2019 (EM-VER-047-190403). A copy of Cellco's EM-VER-047-190403 approval is included in Attachment 1.

Cellco's proposed modification involve the installation of four (4) interference mitigation filters ("Filters") on its existing antenna mounting brackets on the side of the tank. The specification sheet for the new Filters is included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to East Windsor's Chief Elected Official and Land Use Officer and the owner of the Property.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing water tank. The Filters will be installed on Cellco's existing antenna mounting brackets.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The installation of Cellco's new Filters will not result in a change to radio frequency (RF) emissions from the facility. Therefore, no new RF emissions information is included in this filing.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. According to the attached Mount and Global Stability Analysis Report ("MGSA") the existing water tank and antenna mounting structure can support Cellco's proposed modifications. A copy of the MGSA is included in Attachment 3.

A copy of the parcel map and Property owner information is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 5.

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Jason E. Bowsza, First Selectman
Ruthanne Calabrese, Director of Planning and Community Development/Town Planner
Connecticut Water Company, Property Owner
Aleksey Tyurin, Verizon Wireless

ATTACHMENT 1

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

June 3, 2019

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **EM-VER-047-190403** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 104 Prospect Hill Road, East Windsor, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

1. Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;

2. Any material changes to this modification as proposed shall require the filing of a new notice with the Council;

3. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

4. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by Verizon shall be removed within 60 days of the date the antenna ceased to function;

5. The validity of this action shall expire one year from the date of this letter; and

6. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated March 29, 2019, and additional information received May 20, 2019. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site by any dimension, increase noise levels at the tower site boundary by six decibels or more, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996 and by the state Department of Energy and Environmental Protection pursuant to Connecticut General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below state and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require

explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/IN/emr

c: The Honorable Robert L. Maynard, First Selectman, Town of East Windsor
Ruben Flores-Marzan, AICP, Director of Planning & Development, Town of East Windsor
Connecticut Water Company, Tower and Property Owner

ATTACHMENT 2

KA-6030

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The KA-6030 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the KA-6030 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the KA-6030 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available

TECHNICAL SPECIFICATIONS

BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	

ELECTRICAL	
Impedance	50Ohms
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm

DC / AISG	
Passband	0 - 13MHz
Insertion loss	0.3dB maximum
Return loss	15dB minimum
Input voltage range	± 33V
DC current rating	2A continuous, 4A peak
Compliance	3GPP TS 25.461

ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-20°C to +60°C | -4°F to +140°F
Ingress protection	IP67
Altitude	2600m | 8530ft
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.
MTBF	>1,000,000 hours
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE

Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

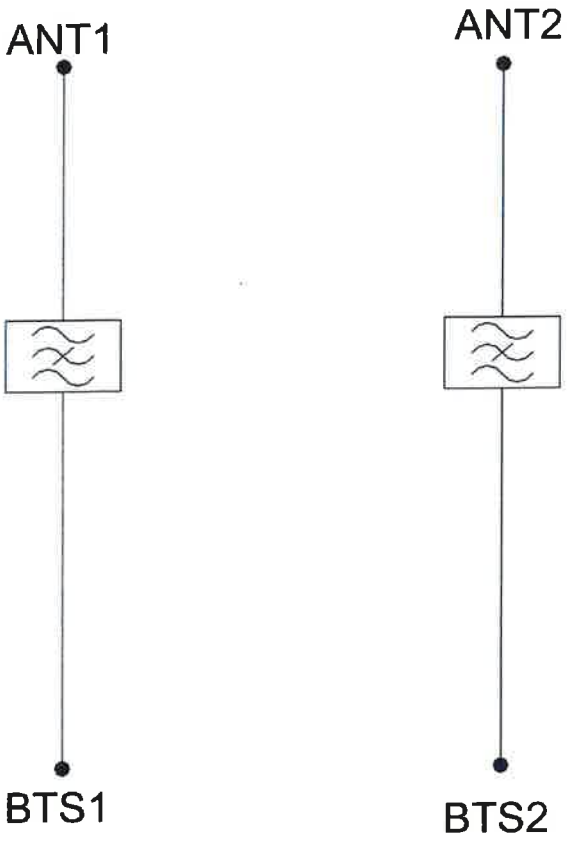
MECHANICAL	
Dimensions H x D x W	269 x 277 x 80mm | 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)
Weight	8.0 kg | 17.6 lbs (no bracket)
Finish	Powder coated, light grey (RAL7035)
Connectors	RF: 4.3-10 (F) x 4
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.

ORDERING INFORMATION

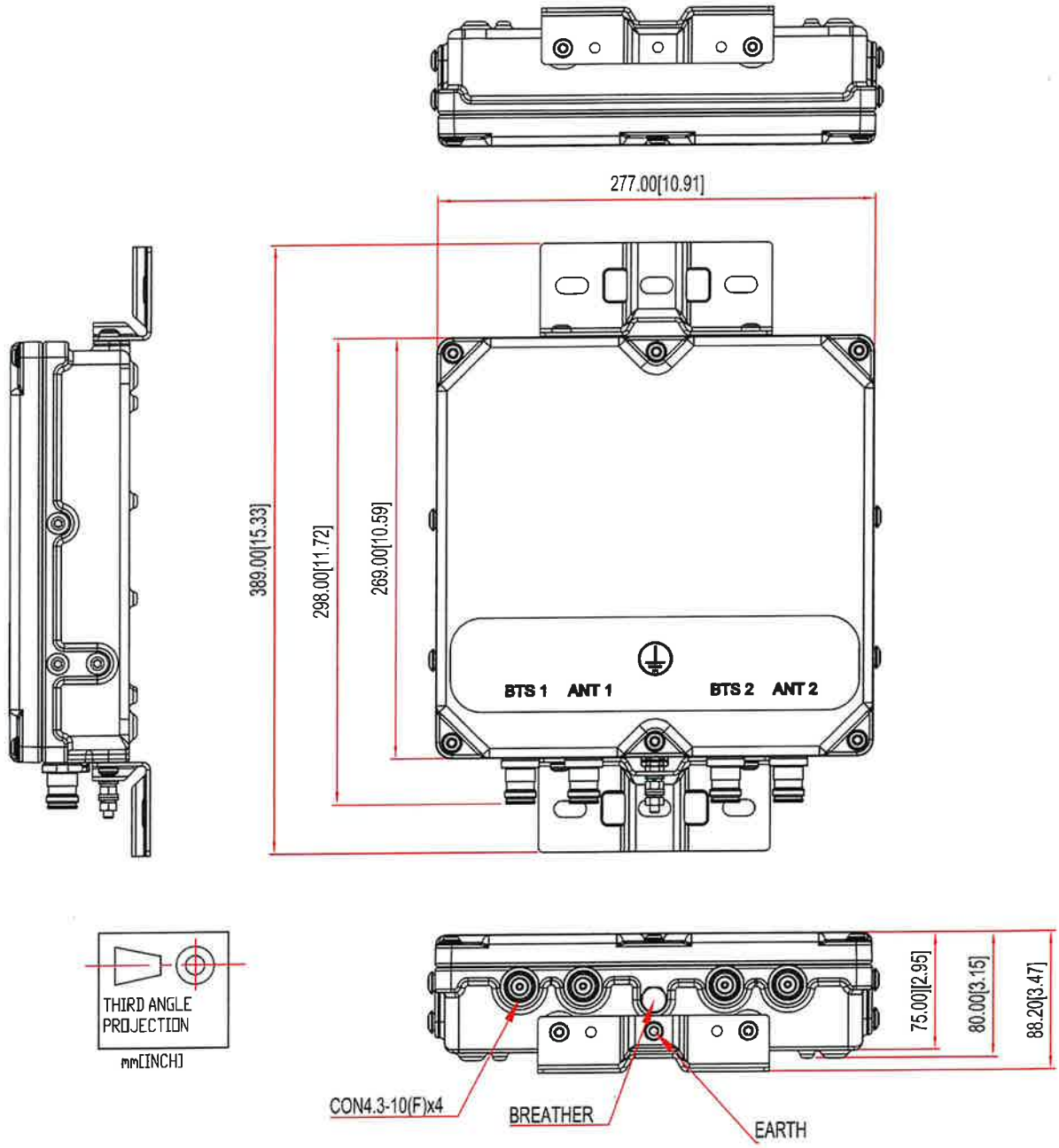
PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
KA-6030-2032	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)

Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM



ATTACHMENT 3

ALL-POINTS
TECHNOLOGY CORPORATION

MOUNT & GLOBAL STABILITY ANALYSIS REPORT
100'± WATER TANK
EAST WINDSOR, CONNECTICUT

verizon

Prepared for
Verizon Wireless

Verizon Site Ref:
East Windsor 2 CT

Site Address: 104 Prospect Hill Road, East Windsor, Connecticut 06088

MDG Location I.D.: 5000385308
FUZE ID: 17123789
PSLC Code: 467839
Project Type: Filter Add

APT Filing No. CT141_14170

Rev. 0 ~ August 17, 2023

ALL-POINTS TECHNOLOGY CORPORATION, P.C.
567 VAUXHALL STREET EXTENSION · SUITE 311 · WATERFORD, CT 06385 · PHONE 860-663-1697

MOUNT & GLOBAL STABILITY ANALYSIS REPORT
100'± WATER TANK
EAST WINDSOR, CONNECTICUT
prepared for
Verizon Wireless

EXECUTIVE SUMMARY:

All-Points Technology Corporation, P.C. (APT) performed a structural analysis of the existing Verizon mount assemblies to support the proposed equipment modification. Additionally, APT performed a global stability analysis of the existing water tank structure with the proposed equipment loading.

Details of the proposed antenna and appurtenance configuration are included within the table on the following page. Further reference can be made to Construction Drawings, prepared by APT, marked Rev 0, dated 08/17/2023.

Our analysis indicates that the existing assemblies meet the requirements of and the 2021 International Building Code (IBC), as amended by the 2022 Connecticut State Building Code and the ANSI/TIA-222-H standard.

The mount assembly and global stability usages is summarized in the table below:

Component/Member	Usage (%)
Connection (welded studs)	34%
Member	67%
Loading Scenario	**% Increase**
Sliding	7.7%
Overturning	13.2% [1]
Component/Member	**Usage (%)**
Resisting Moment due to Self - Weight	46%

1. Per IEBC Section 807.5, structural evaluation is required if the current/proposed lateral loading exceeds 10% of the host structure lateral loading without any alterations and/or other installation.

INTRODUCTION:

A mount and global stability analysis was performed on the above-mentioned host water tank structure by APT for Verizon Wireless. The water tank structure is located at 104 Prospect Hill Road in East Windsor, Connecticut.

The following information was utilized in the preparation of this analysis:

- Tower Schematic Drawing prepared by APT, dated 08/02/2007.
- Mount Analysis Report prepared by APT, dated 03/12/2020.
- Design Exhibits, DE-1 to DE-4, prepared by APT, marked Rev1, dated 02/04/2020.

- Water Tank Drawings (Partial), prepared by Chicago Bridge & Iron Company, dated 05/08/1963.

The existing host structure is a 100'± tall water tank supporting Verizon antennas.

The mount analysis were conducted utilizing the following inventory (proposed equipment changes shown in **bold** text).

Antenna and Appurtenance Make/Model	Quantity	Status	Mount Type	Centerline
Samsung MT6407-77A panel antennas	3	ETR	Fifteen (15) existing single pipe mast antenna mounts.	87.0'± AGL
Samsung CBRS RRH w/ Clip on Antenna	3	ETR		
Commscope SBNHH-1D65B panel antennas	6	ETR		
KAELUS KA-6030	**4 (2 Alpha, 2 Gamma)**	**P**		
Samsung B2/B66a RRH-BR049 (RFV01U-D1A) Remote Radio Heads (RRHs)	3	ETR		
Samsung B5/B13 RRH-BR04C (RFV01U-D2A) Remote Radio Heads (RRHs)	3	ETR		
Raycap RHSDC-3315-PF-48 (6 OVP)	3	ETR		
6x12 L.I. Hybrid Cables	3	ETR	n/a	n/a

2. ETR = Existing to Remain; ERL = Existing to be Relocated; **P** = Proposed.

STRUCTURAL ANALYSIS:

Antenna Frame Analysis Criteria

The structural analysis has been prepared in accordance with the ANSI/TIA-222-H standard entitled "Structural Standard for Antenna Supporting Structures and Small Wind Turbine Support Structures"; American Institute of Steel Construction (AISC) Manual of Steel Construction, and the 2021 International Building Code (IBC), as amended by the 2022 Connecticut State Building Code.

- 130 mph (3-second gust) basic design wind speed
- 50 mph (3-second gust) wind speed w/ 1.5" design ice thickness
- Risk Category: III
- Exposure Category: C
- Topographic Category 1

Water Tank Global Stability Analysis Criteria

The structural analysis has been prepared in accordance with the ANSI/AWWA D100 standard entitled "Welded Carbon Steel Tanks for Water Storage", American Institute of Steel Construction (AISC) Manual of Steel Construction, and the 2021International Building Code (IBC), as amended by the 2022 Connecticut State Building Code utilizing the following criteria:

- 101 mph (3-second gust) allowable stress design wind speed
- Risk Category: III
- Exposure Category: C
- Roof Live Load = 15 psf
- Ground Snow Load, Pg = 30 psf

ANALYSIS RESULTS:

Antenna Mounts:

The analysis of the antenna mount assemblies was conducted in accordance with the criteria outlined herein with the aforementioned proposed equipment loading. The following table summarizes the results of the analysis:

Component/Member	Usage (%)
Connection (welded studs)	34%
Member	67%

Water Tank Global Stability:

The existing water tank's global stability was analyzed by determining its adequacy under applied shear and overturning moment due to lateral loading with the tank empty per AWWA D100. A comparative analysis was initially performed in order to determine whether the existing and proposed carrier loading is within the allowable increase in lateral loading of 10%, as specified in the 2021 International Existing Building Code (IEBC) Section 807. If the allowable increase is exceeded, an evaluation of the applied lateral loading scenarios shall be performed by calculating the resisting forces of the existing host structure.

The global stability usage is summarized in the table below:

Loading Scenario	% Increase
Sliding	7.7%
Overturning	13.2% [2]
Component/Member	Usage (%)
Resisting Moment due to Self - Weight	46%

2. Per IEBC Section 807.5, structural evaluation is required if the current/proposed lateral loading exceeds 10% of the host structure lateral loading without any alterations and/or other installation.

CONCLUSIONS & RECOMMENDATIONS:

In conclusion, our mount analysis indicates that the existing Verizon mount assemblies and related connections meet the requirements of the 2021 International Building Code (IBC), as amended by the 2022 Connecticut State Building Code, and the ANSI/TIA-222-H standard with Verizon's proposed equipment modification. Furthermore, our global stability analysis has determined that the proposed equipment upgrade will not adversely affect the structural integrity of the existing host structure.

Sincerely,
All-Points Technology Corp. P.C.

Michael S. Trodden, P.E
Senior Structural Engineer

Prepared By:
All-Points Technology Corp. P.C.

Jeremy P. Vassell
Project Structural Engineer

Appendix A

Design Criteria

LIMITATIONS:

This report is based on the following:

1. Tower/structure is properly installed and maintained.
2. With the exception of the anchor bolts, all members are in a non-deteriorated condition.
3. All required members are in place.
4. All bolts are in place and are properly tightened.
5. Tower/structure is in plumb condition.
6. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
7. Mount Assembly material yield stress values as follows:
   Pipe: ASTM A53, GR B (35 ksi min.)

All-Points Technology Corporation, P.C. (APT) is not responsible for any modifications completed prior to or hereafter which APT is not or was not directly involved. Modifications include but are not limited to:

1. Replacing or reinforcing bracing members.
2. Reinforcing members in any manner.
3. Installing antenna mounts.
4. Extending tower/structure.

APT hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon the information contained and set forth herein. If you are aware of any information which is contrary to that which is contained herein, or you are aware of any defects arising from the original design, material, fabrication, and erection deficiencies, you should disregard this report and immediately contact APT. APT disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Municipality	Basic Design Wind Speeds, V (mph)				Allowable Stress Design Wind Speeds, V_{asd} (mph)				Ground Snow Load p_g (psf)	MCE Ground Accelerations		Wind-Borne Debris Region[1]		Hurricane-Prone Region
	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV		S_S (g)	S_1 (g)	Risk Cat. III Occup. I-2	Risk Cat. IV	
Cornwall	105	115	125	130	81	89	97	101	40	0.172	0.054			
Coventry	110	120	130	135	85	93	101	105	30	0.188	0.055			Yes
Cromwell	110	120	130	135	85	93	101	105	30	0.207	0.056			Yes
Danbury	110	120	125	130	85	93	97	101	30	0.225	0.056			Yes
Darien	110	120	130	135	85	93	101	105	30	0.250	0.057		Type B	Yes
Deep River	115	125	135	140	89	97	105	108	30	0.210	0.054			Yes
Derby	110	120	130	135	85	93	101	105	30	0.202	0.054			Yes
Durham	110	120	130	135	85	93	101	105	30	0.211	0.055			Yes
East Granby	110	120	125	130	85	93	97	101	35	0.173	0.054			Yes
East Haddam	115	125	135	135	89	97	105	105	30	0.214	0.056			Yes
East Hampton	110	125	130	135	85	97	101	105	30	0.210	0.056			Yes
East Hartford	110	120	130	135	85	93	101	105	30	0.191	0.055			Yes
East Haven	110	125	135	135	85	97	105	105	30	0.200	0.053	Type B	Type B	Yes
East Lyme	120	130	135	140	93	101	105	108	30	0.198	0.053	Type B	Type B	Yes
East Windsor	110	120	130	135	85	93	101	105	30	0.177	0.055			Yes
Eastford	110	120	130	135	85	93	101	105	40	0.180	0.055			Yes
Easton	110	120	130	135	85	93	101	105	30	0.218	0.055			Yes
Ellington	110	120	130	135	85	93	101	105	35	0.178	0.055			Yes
Enfield	110	120	125	130	85	93	97	101	35	0.172	0.055			Yes
Essex	115	125	135	140	89	97	105	108	30	0.207	0.054			Yes
Fairfield	110	120	130	135	85	93	101	105	30	0.219	0.055		Type B	Yes
Farmington	110	120	130	135	85	93	101	105	35	0.188	0.055			Yes
Franklin	115	125	135	140	89	97	105	108	30	0.195	0.054			Yes
Glastonbury	110	120	130	135	85	93	101	105	30	0.200	0.055			Yes
Goshen	110	115	125	130	85	89	97	101	40	0.172	0.054			
Granby	110	120	125	130	85	93	97	101	35	0.171	0.054			Yes
Greenwich	110	120	130	135	85	93	101	105	30	0.274	0.059		Type B	Yes
Griswold	120	125	135	140	93	97	105	108	30	0.189	0.054			Yes
Groton	120	130	140	140	93	101	108	108	30	0.190	0.052	Type B	Type A	Yes
Guilford	115	125	135	140	89	97	105	108	30	0.204	0.054	Type B	Type B	Yes
Haddam	115	125	135	135	89	97	105	105	30	0.214	0.055			Yes
Hamden	110	120	130	135	85	93	101	105	30	0.202	0.054			Yes

ASCE 7 Hazards Report

Address:
104 Prospect Hill Rd
East Windsor, Connecticut
06088

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: D - Default (see Section 11.4.3)

Latitude: 41.926391
Longitude: -72.606175
Elevation: 162.47613430684768 ft (NAVD 88)

Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Fri Aug 11 2023

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Appendix B

Mount Analysis

ALL-POINTS TECHNOLOGY CORPORATION

Project ID:	CT141_14170
Site Name:	East Windsor 2
Date:	8/16/2023

(Based on ANSI/TIA-222-H-2018)

Site Name:	East Windsor 2 CT
Site Address:	104 Prospect Hill Road East Windsor, CT 06088
Site County:	Hartford

Design Criteria:

Risk Category =	III		*Table 1.5-1*
Exposure Category =	C		*Section 26.7.3*
Ultimate Design Wind Speed, V =	130	mph	*2022 CTSBC, Appendix P*
Design Wind Speed with Ice, V_i =	50	mph	*Fig. B-9*
Design Ice Thickness, t_i =	1.50	in	*Fig. B-9*
Importance Factor, I =	1.15		*Table 2-3*

Wind Pressure Analysis:

$q_z = 0.00256K_zK_{zt}K_sK_eK_dV^2$ *Section 2.6.11.6*

K_z : **See Next Sheet**

	z_g =	900	*Table 26.9-1*
	α =	9.5	*Table 26.9-1*
	K_{zmin} =	0.85	*Table 26.9-1*
K_{zt} :	K_{zt} =	**1.00**	*Section 2.6.6*
K_s :	K_s =	**1.00**	*Section 2.6.7*
K_e :	K_e =	**1.00**	*Section 2.6.8*
K_d :	K_d =	**0.95**	*Section 16.6*

q_z' =	**41.10**	**psf**
q_{zi}' =	**6.08**	**psf**

$F = q_zG_h(EPA)_A = q_zG_hK_a[(EPA)_N\cos^2(\Theta)+(EPA)_T\sin^2(\Theta)]$ *Section 2.6.11.2*

G_h =	1.00	*Section 16.6*
K_a =	0.90	*Section 16.6*

ALL-POINTS TECHNOLOGY CORPORATION

(Based on ANSI/TIA-222-H-2018)

Project ID: CT141_14170
Site Name: East Windsor 2
Date: 8/16/2023

Design Criteria: *(From Previous Sheet)*

$q_z' =$ 41.10 psf
$q_{zi}' =$ 6.08 psf
$t_i =$ 1.50 in

$G_h =$ 1.00 *Section 16.6*
$K_e =$ 0.90 *Section 16.6*

Description	#/Sector	Elev. z, ft	K_z	q_z, psf	Dimensions Height, in	Width, in	Depth, in	Wght.[1], lbs	Flat Panel Front Coefficient Area, ft²	Aspect Ratio	Ca	C_aA_a	Flat Panel Side Coefficient Area, ft²	Aspect Ratio	Ca	C_aA_a	Front Wind Force, lbs	Side Wind Force, lbs	Weight, lbs
KAELUS KA-6030	2.0	87.0	1.229	50.52	10.6	10.9	3.2	17.6	0.80	0.972	1.20	0.96	0.232	3.365	1.24	0.287	44.0	14.0	17.6
MT6407-77A	1.0	87.0	1.229	50.52	35.1	16.1	5.5	87.1	3.92	2.180	1.20	4.71	1.341	6.382	1.37	1.840	215.0	84.0	87.1
CBRS RRH w/ CLIP ON ANTENNA	1.0	87.0	1.229	50.52	16.8	9.6	6.9	32.0	1.12	1.757	1.20	1.34	0.804	2.440	1.20	0.965	61.0	44.0	32.0
SBNHH-1D65B	2.0	87.0	1.229	50.52	72.9	11.9	7.1	53.3	6.02	6.126	1.36	8.20	3.594	10.268	1.51	5.424	373.0	247.0	53.3
B2/B66A RRH-BR049 (RFV01U-D1A)	1.0	87.0	1.229	50.52	14.9	14.9	10.0	97.5	1.54	1.000	1.20	1.85	1.039	1.484	1.20	1.247	85.0	57.0	97.5
B5/B13 RRH-BR04C (RFV01U-D2A)	1.0	87.0	1.229	50.52	14.9	14.9	8.1	82.0	1.54	1.000	1.20	1.85	0.842	1.830	1.20	1.011	85.0	46.0	82.0
RHSDC-3315-PF-48	1.0	87.0	1.229	50.52	19.2	15.7	10.3	32.0	2.10	1.221	1.20	2.52	1.367	1.873	1.20	1.640	115.0	75.0	32.0

Description	#/Sector	z, ft	K_z	q_{zi}, psf	Dimensions with Ice Ice Thick., t_{iv}, in	Height, in	Dc, in	Ice Wght., lbs	Flat Panel Front Coefficient Area, ft²	Aspect Ratio	Ca	C_aA_a	Flat Panel Side Coefficient Area, ft²	Aspect Ratio	Ca	C_aA_a	Front Wind Force, lbs	Side Wind Force, lbs	Weight, lbs
KAELUS KA-6030	2.0	87.0	1.229	7.473	1.90	14.40	11.35	36.9	1.47	1.27	0.70	1.029	0.695	1.27	0.70	0.487	7.0	4.0	54.5
MT6407-77A	1.0	87.0	1.229	7.473	1.90	38.90	17.01	142.4	5.38	2.29	0.70	3.763	2.513	2.29	0.70	1.759	26.0	12.0	229.5
CBRS RRH w/ CLIP ON ANTENNA	1.0	87.0	1.229	7.473	1.90	20.61	11.79	54.6	1.91	1.75	0.70	1.339	1.530	1.75	0.70	1.071	10.0	8.0	86.6
SBNHH-1D65B	2.0	87.0	1.229	7.473	1.90	76.70	13.86	233.9	8.36	5.54	0.77	6.418	5.806	5.54	0.77	4.456	44.0	30.0	287.2
B2/B66A RRH-BR049 (RFV01U-D1A)	1.0	87.0	1.229	7.473	1.90	18.70	17.97	71.9	2.43	1.04	0.70	1.700	1.798	1.04	0.70	1.258	12.0	9.0	169.4
B5/B13 RRH-BR04C (RFV01U-D2A)	1.0	87.0	1.229	7.473	1.90	18.70	16.98	68.3	2.43	1.10	0.70	1.700	1.551	1.10	0.70	1.086	12.0	8.0	150.3
RHSDC-3315-PF-48	1.0	87.0	1.229	7.473	1.90	23.00	18.77	92.0	3.12	1.23	0.70	2.184	2.244	1.23	0.70	1.571	15.0	11.0	124.0

Notes:

1 - Includes mounting bracket weights.

ALL-POINTS TECHNOLOGY CORPORATION

CT141_14170

Project ID:	CT141_14170
Site Name:	East Windsor 2
Date:	8/16/2023

(Based on ANSI/TIA-222-H-2018)

Design Criteria: *(From Previous Sheet)*

$q_z' =$ **41.10** psf

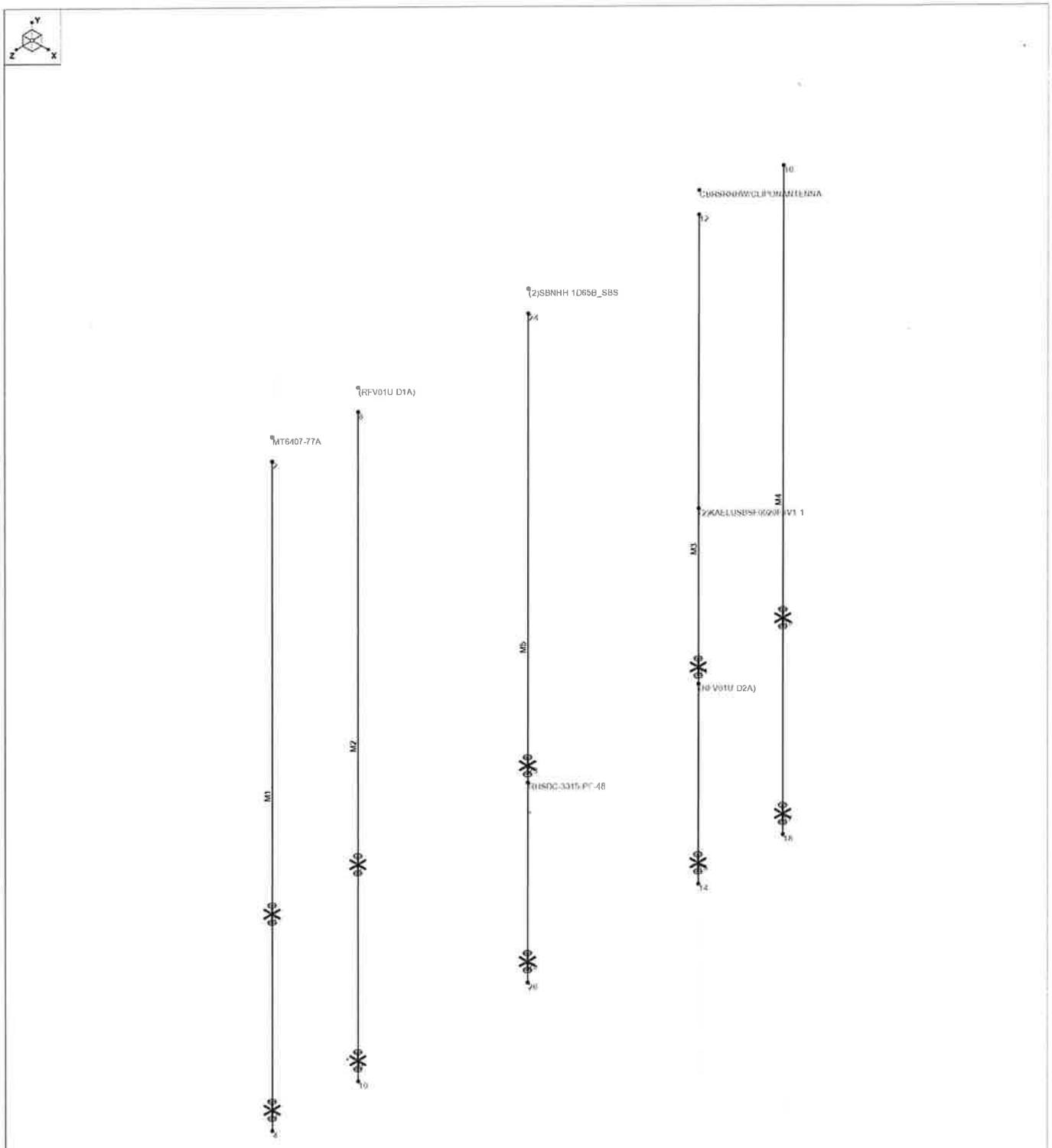
$q_{zi}' =$ **6.08** psf

$t_i =$ **1.50** in

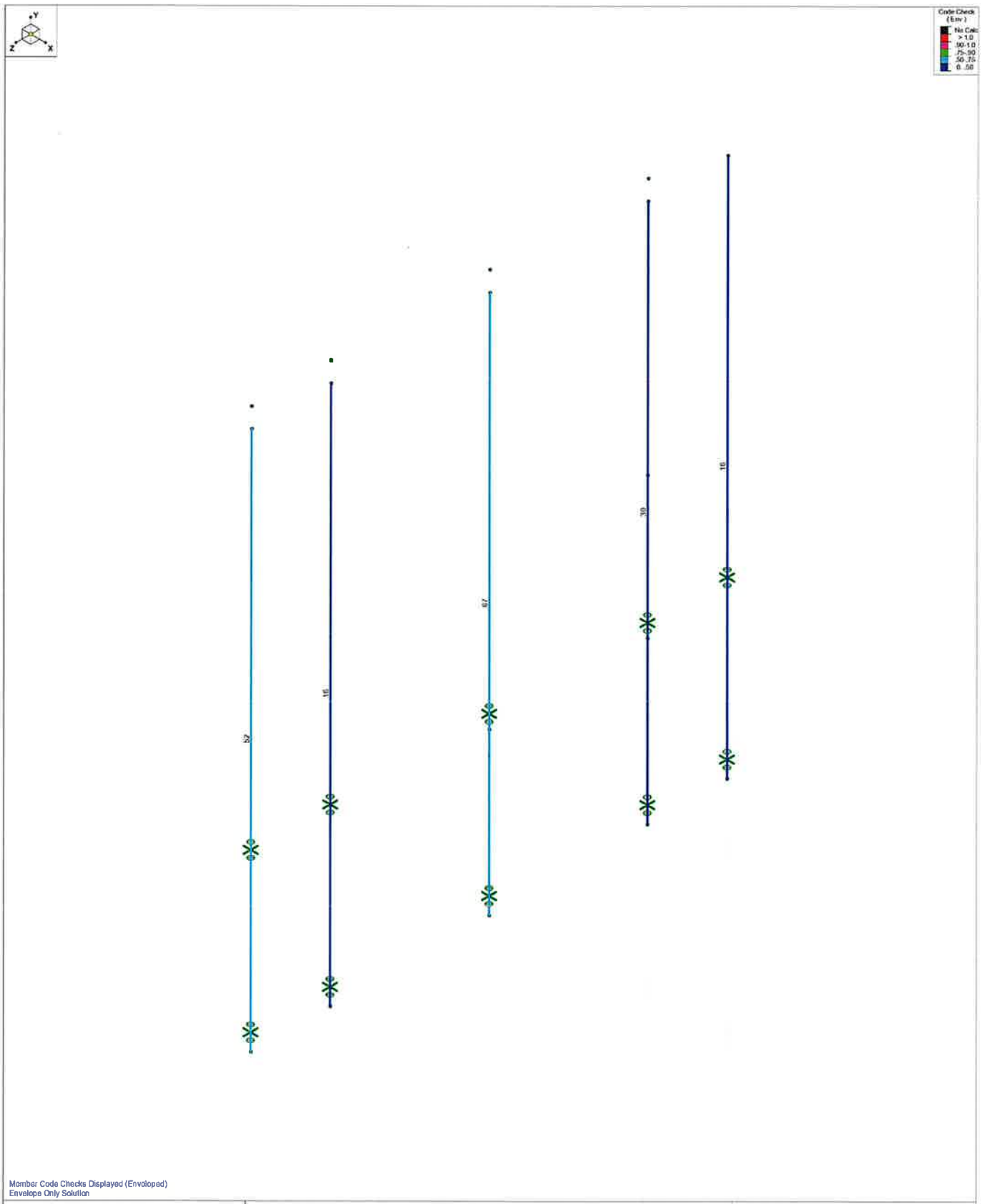
$G_h =$ 1.00 *Section 16.6*

$K_a =$ 0.90 *Section 16.6*

Description	Elev. z, ft	K_z	q_z, psf	Ice Thick., t_{iz}, in	q_{zi}, psf	Dimensions: Width or Dia, in	Dimensions: Depth, in	Dimensions: Weight, lbs/ft	Loading, No Ice: Flat or Round	Loading, No Ice: Ca	Loading, No Ice: Wind, lbs/ft	With Ice: Width or Dia, in	With Ice: Dc, in	With Ice: Weight, lbs/ft	With Ice: Ca	With Ice: Wind, lbs/ft
2.5" STD Pipe	87	1.229	50.52	1.90	7.47	2.875	2.875	5.79	ROUND	1.20	13.1	6.68	2.88	11.09	1.20	4.49
3.0" XS Pipe	87	1.229	50.52	1.90	7.47	3.500	3.500	10.30	ROUND	1.20	15.9	7.30	3.50	12.54	1.20	4.91



APT	Typ Mount	
JV		
East Windsor 2 CT	Nodes & Labels	East Windsor 2 CT - Typ Sector.r3d



APT	Typ Mount	
JV		
East Windsor 2 CT	Max Stresses	East Windsor 2 CT - Typ Sector.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	2.5" STD	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
2	3.0" STD	PIPE_3.0X	Column	Pipe	A53 Gr.B	Typical	2.83	3.7	3.7	7.4

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	2.5" STD	164									Lateral
2	M2	2.5" STD	164									Lateral
3	M3	2.5" STD	164									Lateral
4	M4	2.5" STD	164									Lateral
5	M5	3.0" STD	164									Lateral

Basic Load Cases

	BLC Description	Category	X Gravi...	Y Gravi...	Z Gravity	Joint	Point	Distrib...	Area(M...	Surfac...
1	DL	DL		-1.05			8			
2	WLX	WLX					7	5		
3	WLZ	WLZ					8	5		
5	DLi	OL1					8	5		
6	WLXi	WL+X					7	5		
7	WLZi	WL+Z					8	5		

Load Combinations

	Description	S...	P...	S...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL	Y...	Y		DL	1.4																		
2																								
3	1.2DL + WLX	Y...	Y		DL	1.2	WLX	1																
4	1.2DL + 0.75WLX + 0.25WLZ	Y...	Y		DL	1.2	WLX	.75	WLZ	.25														
5	1.2DL + 0.25WLX + 0.75WLZ	Y...	Y		DL	1.2	WLX	.25	WLZ	.75														
6	1.2DL + WLZ	Y...	Y		DL	1.2	WLZ	1																
7	1.2DL + 0.25WL-X + 0.75WLZ	Y...	Y		DL	1.2	WLX	-.25	WLZ	.75														
8	1.2DL + 0.75WL-X + 0.25WLZ	Y...	Y		DL	1.2	WLX	-.75	WLZ	.25														
9	1.2DL + WL-X	Y...	Y		DL	1.2	WLX	-1																
10	1.2DL + 0.75WL-X + 0.25WL-Z	Y...	Y		DL	1.2	WLX	-.75	WLZ	-.25														
11	1.2DL + 0.25WL-X + 0.75WL-Z	Y...	Y		DL	1.2	WLX	-.25	WLZ	-.75														
12	1.2DL + WL-Z	Y...	Y		DL	1.2	WLZ	-1																
13	1.2DL + 0.25WLX + 0.75WL-Z	Y...	Y		DL	1.2	WLX	.25	WLZ	-.75														
14	1.2DL + 0.75WLX + 0.25WL-Z	Y...	Y		DL	1.2	WLX	.75	WLZ	-.25														
15																								
16	1.2DL + DLi + WLXi	Y...	Y		DL	1.2	OL1	1	WL+X	1														
17	1.2DL + DLi + 0.75WLXi + 0.25WLZi	Y...	Y		DL	1.2	OL1	1	WL+X	.75	...	.25												
18	1.2DL + DLi + 0.25WLXi + 0.75WLZi	Y...	Y		DL	1.2	OL1	1	WL+X	.25	...	.75												

Load Combinations (Continued)

	Description	S	P	S	B	Fa	BLC	Fa	BLC	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa
19	1.2DL + DLi + WLZi	Y	Y		DL	1.2	OL1	1	WL+Z	1														
20	1.2DL + DLi + 0.25WL-Xi + 0.75WLZi	Y	Y		DL	1.2	OL1	1	WL+X	-.25		.75												
21	1.2DL + DLi + 0.75WL-Xi + 0.25WLZi	Y	Y		DL	1.2	OL1	1	WL+X	-.75		.25												
22	1.2DL + DLi + WL-Xi	Y	Y		DL	1.2	OL1	1	WL+X	-1														
23	1.2DL + DLi + 0.75WL-Xi + 0.25WL-Zi	Y	Y		DL	1.2	OL1	1	WL+X	-.75		-.25												
24	1.2DL + DLi + 0.25WL-Xi + 0.75WL-Zi	Y	Y		DL	1.2	OL1	1	WL+X	-.25		-.75												
25	1.2DL + DLi + WL-Zi	Y	Y		DL	1.2	OL1	1	WL+Z	-1														
26	1.2DL + DLi + 0.25WLXi + 0.75WL-Zi	Y	Y		DL	1.2	OL1	1	WL+X	.25		-.75												
27	1.2DL + DLi + 0.75WLXi + 0.25WL-Zi	Y	Y		DL	1.2	OL1	1	WL+X	.75		-.25												
28																								
29	DL		Y		DL	1																		
30																								
31	DL + 0.6WLX		Y		DL	1	WLX	.6																
32	DL + 0.6(.75WLX + 0.25WLZ)		Y		DL	1	WLX	.45	WLZ	.15														
33	DL + 0.6(0.25WLX + 0.75WLZ)		Y		DL	1	WLX	.15	WLZ	.45														
34	DL + 0.6WLZ		Y		DL	1	WLZ	.6																
35	DL + 0.6(0.25WL-X + 0.75WLZ)		Y		DL	1	WLX	-.15	WLZ	.45														
36	DL + 0.6(0.75WL-X + 0.25WLZ)		Y		DL	1	WLX	-.45	WLZ	.15														
37	DL + 0.6WL-X		Y		DL	1	WLX	-.6																
38	DL + 0.6(0.75WL-X + 0.25WL-Z)		Y		DL	1	WLX	-.45	WLZ	-.15														
39	DL + 0.6(0.25WL-X + 0.75WL-Z)		Y		DL	1	WLX	-.15	WLZ	-.45														
40	DL + 0.6WL-Z		Y		DL	1	WLZ	.6																
41	DL + 0.6(0.25WLX + 0.75WL-Z)		Y		DL	1	WLX	.15	WLZ	-.45														
42	DL + 0.6(0.75WLX + 0.25WL-Z)		Y		DL	1	WLX	.45	WLZ	-.15														
43																								
44	DL + 0.7DLi + 0.7WLXi		Y		DL	1	OL1	.7	WL+X	.7														
45	DL + 0.7DLi + 0.7(0.75WLXi + 0.25WLZi)		Y		DL	1	OL1	.7	WL+X	.525		.175												
46	DL + 0.7DLi + 0.7(0.25WLXi + 0.75WLZi)		Y		DL	1	OL1	.7	WL+X	.175		.525												
47	DL + 0.7DLi + 0.7WLZi		Y		DL	1	OL1	.7	WL+Z	.7														
48	DL + 0.7DLi + 0.7(0.25WL-Xi + 0.75WL...		Y		DL	1	OL1	.7	WL+X	-.1		.525												
49	DL + 0.7DLi + 0.7(0.75WL-Xi + 0.25WL...		Y		DL	1	OL1	.7	WL+X	-.5		.175												
50	DL + 0.7DLi + 0.7WL-Xi		Y		DL	1	OL1	.7	WL+X	-.7														
51	DL + 0.7DLi + 0.7(0.75WL-Xi + 0.25WL...		Y		DL	1	OL1	.7	WL+X	-.5		-.1...												
52	DL + 0.7DLi + 0.7(0.25WL-Xi + 0.75WL...		Y		DL	1	OL1	.7	WL+X	-.1		-.5...												
53	DL + 0.7DLi + 0.7WL-Zi		Y		DL	1	OL1	.7	WL+Z	-.7														
54	DL + 0.7DLi + 0.7(0.25WLXi + 0.75WL-...		Y		DL	1	OL1	.7	WL+X	.175		-.5...												
55	DL + 0.7DLi + 0.7(0.75WLXi + 0.25WL-...		Y		DL	1	OL1	.7	WL+X	.525		-.1...												

Joint Reactions (By Combination)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
1	1	1	0	212.54	0	0	0	0
2	1	3	0	19.462	0	0	0	0
3	1	7	0	215.725	0	0	0	0
4	1	9	0	30.837	0	0	0	0
5	1	11	0	309.805	0	0	0	0
6	1	13	0	30.837	0	0	0	0
7	1	15	0	90.6	0	0	0	0
8	1	17	0	19.462	0	0	0	0
9	1	23	0	349.56	0	0	0	0
10	1	25	0	37.943	0	0	0	0
11	1	Totals:	0	1316.774	0			
12	1	COG (in):	X: 0	Y: 25.421	Z: -68.762			
13	3	1	825.872	182.177	0	0	0	0
14	3	3	-431.838	16.682	0	0	0	0
15	3	7	365.746	184.907	0	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
16	3	9	-101.712	26.432	0	0	0	0
17	3	11	596.539	265.547	0	0	0	0
18	3	13	-227.506	26.432	0	0	0	0
19	3	15	287.84	77.657	0	0	0	0
20	3	17	-108.806	16.682	0	0	0	0
21	3	23	2312.154	299.623	0	0	0	0
22	3	25	-1233.854	32.523	0	0	0	0
23	3	Totals:	2284.433	1128.663	0			
24	3	COG (in):	X: 0	Y: 25.421	Z: -68.762			
25	4	1	619.404	182.177	124.674	0	0	0
26	4	3	-323.879	16.682	-58.915	0	0	0
27	4	7	274.309	184.907	85.021	0	0	0
28	4	9	-76.284	26.432	-26.012	0	0	0
29	4	11	447.404	265.547	125.01	0	0	0
30	4	13	-170.629	26.432	-48.002	0	0	0
31	4	15	215.88	77.657	71.96	0	0	0
32	4	17	-81.605	16.682	-27.202	0	0	0
33	4	23	1734.116	299.623	258.331	0	0	0
34	4	25	-925.391	32.523	-123.506	0	0	0
35	4	Totals:	1713.325	1128.663	381.358			
36	4	COG (in):	X: 0	Y: 25.421	Z: -68.762			
37	5	1	206.468	182.177	374.021	0	0	0
38	5	3	-107.96	16.682	-176.746	0	0	0
39	5	7	91.436	184.907	255.062	0	0	0
40	5	9	-25.428	26.432	-78.037	0	0	0
41	5	11	149.135	265.547	375.031	0	0	0
42	5	13	-56.876	26.432	-144.006	0	0	0
43	5	15	71.96	77.657	215.88	0	0	0
44	5	17	-27.202	16.682	-81.605	0	0	0
45	5	23	578.039	299.623	774.994	0	0	0
46	5	25	-308.464	32.523	-370.519	0	0	0
47	5	Totals:	571.108	1128.663	1144.075			
48	5	COG (in):	X: 0	Y: 25.421	Z: -68.762			
49	6	1	0	182.177	498.695	0	0	0
50	6	3	0	16.682	-235.662	0	0	0
51	6	7	0	184.907	340.082	0	0	0
52	6	9	0	26.432	-104.049	0	0	0
53	6	11	0	265.547	500.042	0	0	0
54	6	13	0	26.432	-192.009	0	0	0
55	6	15	0	77.657	287.84	0	0	0
56	6	17	0	16.682	-108.806	0	0	0
57	6	23	0	299.623	1033.326	0	0	0
58	6	25	0	32.523	-494.026	0	0	0
59	6	Totals:	0	1128.663	1525.433			
60	6	COG (in):	X: 0	Y: 25.421	Z: -68.762			
61	7	1	-206.468	182.177	374.021	0	0	0
62	7	3	107.96	16.682	-176.746	0	0	0
63	7	7	-91.436	184.907	255.062	0	0	0
64	7	9	25.428	26.432	-78.037	0	0	0
65	7	11	-149.135	265.547	375.031	0	0	0
66	7	13	56.876	26.432	-144.006	0	0	0
67	7	15	-71.96	77.657	215.88	0	0	0
68	7	17	27.202	16.682	-81.605	0	0	0
69	7	23	-578.039	299.623	774.994	0	0	0
70	7	25	308.464	32.523	-370.519	0	0	0
71	7	Totals:	-571.108	1128.663	1144.075			
72	7	COG (in):	X: 0	Y: 25.421	Z: -68.762			

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
73	8	1	-619.404	182.177	124.674	0	0	0
74	8	3	323.879	16.682	-58.915	0	0	0
75	8	7	-274.309	184.907	85.021	0	0	0
76	8	9	76.284	26.432	-26.012	0	0	0
77	8	11	-447.404	265.547	125.01	0	0	0
78	8	13	170.629	26.432	-48.002	0	0	0
79	8	15	-215.88	77.657	71.96	0	0	0
80	8	17	81.605	16.682	-27.202	0	0	0
81	8	23	-1734.116	299.623	258.331	0	0	0
82	8	25	925.391	32.523	-123.506	0	0	0
83	8	Totals:	-1713.325	1128.663	381.358			
84	8	COG (in):	X: 0	Y: 25.421	Z: -68.762			
85	9	1	-825.872	182.177	0	0	0	0
86	9	3	431.838	16.682	0	0	0	0
87	9	7	-365.746	184.907	0	0	0	0
88	9	9	101.712	26.432	0	0	0	0
89	9	11	-596.539	265.547	0	0	0	0
90	9	13	227.506	26.432	0	0	0	0
91	9	15	-287.84	77.657	0	0	0	0
92	9	17	108.806	16.682	0	0	0	0
93	9	23	-2312.154	299.623	0	0	0	0
94	9	25	1233.854	32.523	0	0	0	0
95	9	Totals:	-2284.433	1128.663	0			
96	9	COG (in):	X: 0	Y: 25.421	Z: -68.762			
97	10	1	-619.404	182.177	-124.674	0	0	0
98	10	3	323.879	16.682	58.915	0	0	0
99	10	7	-274.309	184.907	-85.021	0	0	0
100	10	9	76.284	26.432	26.012	0	0	0
101	10	11	-447.404	265.547	-125.01	0	0	0
102	10	13	170.629	26.432	48.002	0	0	0
103	10	15	-215.88	77.657	-71.96	0	0	0
104	10	17	81.605	16.682	27.202	0	0	0
105	10	23	-1734.116	299.623	-258.331	0	0	0
106	10	25	925.391	32.523	123.506	0	0	0
107	10	Totals:	-1713.325	1128.663	-381.358			
108	10	COG (in):	X: 0	Y: 25.421	Z: -68.762			
109	11	1	-206.468	182.177	-374.021	0	0	0
110	11	3	107.96	16.682	176.746	0	0	0
111	11	7	-91.436	184.907	-255.062	0	0	0
112	11	9	25.428	26.432	78.037	0	0	0
113	11	11	-149.135	265.547	-375.031	0	0	0
114	11	13	56.876	26.432	144.006	0	0	0
115	11	15	-71.96	77.657	-215.88	0	0	0
116	11	17	27.202	16.682	81.605	0	0	0
117	11	23	-578.039	299.623	-774.994	0	0	0
118	11	25	308.464	32.523	370.519	0	0	0
119	11	Totals:	-571.108	1128.663	-1144.075			
120	11	COG (in):	X: 0	Y: 25.421	Z: -68.762			
121	12	1	0	182.177	-498.695	0	0	0
122	12	3	0	16.682	235.662	0	0	0
123	12	7	0	184.907	-340.082	0	0	0
124	12	9	0	26.432	104.049	0	0	0
125	12	11	0	265.547	-500.042	0	0	0
126	12	13	0	26.432	192.009	0	0	0
127	12	15	0	77.657	-287.84	0	0	0
128	12	17	0	16.682	108.806	0	0	0
129	12	23	0	299.623	-1033.326	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
130	12	25	0	32.523	494.026	0	0	0
131	12	Totals:	0	1128.663	-1525.433			
132	12	COG (in):	X: 0	Y: 25.421	Z: -68.762			
133	13	1	206.468	182.177	-374.021	0	0	0
134	13	3	-107.96	16.682	176.746	0	0	0
135	13	7	91.436	184.907	-255.062	0	0	0
136	13	9	-25.428	26.432	78.037	0	0	0
137	13	11	149.135	265.547	-375.031	0	0	0
138	13	13	-56.876	26.432	144.006	0	0	0
139	13	15	71.96	77.657	-215.88	0	0	0
140	13	17	-27.202	16.682	81.605	0	0	0
141	13	23	578.039	299.623	-774.994	0	0	0
142	13	25	-308.464	32.523	370.519	0	0	0
143	13	Totals:	571.108	1128.663	-1144.075			
144	13	COG (in):	X: 0	Y: 25.421	Z: -68.762			
145	14	1	619.404	182.177	-124.674	0	0	0
146	14	3	-323.879	16.682	58.915	0	0	0
147	14	7	274.309	184.907	-85.021	0	0	0
148	14	9	-76.284	26.432	26.012	0	0	0
149	14	11	447.404	265.547	-125.01	0	0	0
150	14	13	-170.629	26.432	48.002	0	0	0
151	14	15	215.88	77.657	-71.96	0	0	0
152	14	17	-81.605	16.682	27.202	0	0	0
153	14	23	1734.116	299.623	-258.331	0	0	0
154	14	25	-925.391	32.523	123.506	0	0	0
155	14	Totals:	1713.325	1128.663	-381.358			
156	14	COG (in):	X: 0	Y: 25.421	Z: -68.762			
157	16	1	165.556	449.34	0	0	0	0
158	16	3	-78.193	43.483	0	0	0	0
159	16	7	110.01	375.578	0	0	0	0
160	16	9	-36.647	59.224	0	0	0	0
161	16	11	148.074	584.818	0	0	0	0
162	16	13	-57.711	59.224	0	0	0	0
163	16	15	99.014	202.42	0	0	0	0
164	16	17	-37.651	43.483	0	0	0	0
165	16	23	343.916	992.832	0	0	0	0
166	16	25	-173.813	70.495	0	0	0	0
167	16	Totals:	482.557	2880.897	0			
168	16	COG (in):	X: 0	Y: 31.15	Z: -69.315			
169	17	1	124.167	449.34	32.551	0	0	0
170	17	3	-58.644	43.483	-14.21	0	0	0
171	17	7	82.508	375.578	26.815	0	0	0
172	17	9	-27.485	59.224	-9.224	0	0	0
173	17	11	111.055	584.818	35.523	0	0	0
174	17	13	-43.283	59.224	-13.932	0	0	0
175	17	15	74.261	202.42	24.754	0	0	0
176	17	17	-28.238	43.483	-9.413	0	0	0
177	17	23	257.937	992.832	46.271	0	0	0
178	17	25	-130.36	70.495	-20.68	0	0	0
179	17	Totals:	361.918	2880.897	98.454			
180	17	COG (in):	X: 0	Y: 31.15	Z: -69.315			
181	18	1	41.389	449.34	97.652	0	0	0
182	18	3	-19.548	43.483	-42.63	0	0	0
183	18	7	27.503	375.578	80.446	0	0	0
184	18	9	-9.162	59.224	-27.673	0	0	0
185	18	11	37.018	584.818	106.569	0	0	0
186	18	13	-14.428	59.224	-41.796	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
187	18	15	24.754	202.42	74.261	0	0	0
188	18	17	-9.413	43.483	-28.238	0	0	0
189	18	23	85.979	992.832	138.814	0	0	0
190	18	25	-43.453	70.495	-62.041	0	0	0
191	18	Totals:	120.639	2880.897	295.363			
192	18	COG (in):	X: 0	Y: 31.15	Z: -69.315			
193	19	1	0	449.34	130.203	0	0	0
194	19	3	0	43.483	-56.84	0	0	0
195	19	7	0	375.578	107.261	0	0	0
196	19	9	0	59.224	-36.898	0	0	0
197	19	11	0	584.818	142.091	0	0	0
198	19	13	0	59.224	-55.728	0	0	0
199	19	15	0	202.42	99.014	0	0	0
200	19	17	0	43.483	-37.651	0	0	0
201	19	23	0	992.832	185.085	0	0	0
202	19	25	0	70.495	-82.722	0	0	0
203	19	Totals:	0	2880.897	393.817			
204	19	COG (in):	X: 0	Y: 31.15	Z: -69.315			
205	20	1	-41.389	449.34	97.652	0	0	0
206	20	3	19.548	43.483	-42.63	0	0	0
207	20	7	-27.503	375.578	80.446	0	0	0
208	20	9	9.162	59.224	-27.673	0	0	0
209	20	11	-37.018	584.818	106.569	0	0	0
210	20	13	14.428	59.224	-41.796	0	0	0
211	20	15	-24.754	202.42	74.261	0	0	0
212	20	17	9.413	43.483	-28.238	0	0	0
213	20	23	-85.979	992.832	138.814	0	0	0
214	20	25	43.453	70.495	-62.041	0	0	0
215	20	Totals:	-120.639	2880.897	295.363			
216	20	COG (in):	X: 0	Y: 31.15	Z: -69.315			
217	21	1	-124.167	449.34	32.551	0	0	0
218	21	3	58.644	43.483	-14.21	0	0	0
219	21	7	-82.508	375.578	26.815	0	0	0
220	21	9	27.485	59.224	-9.224	0	0	0
221	21	11	-111.055	584.818	35.523	0	0	0
222	21	13	43.283	59.224	-13.932	0	0	0
223	21	15	-74.261	202.42	24.754	0	0	0
224	21	17	28.238	43.483	-9.413	0	0	0
225	21	23	-257.937	992.832	46.271	0	0	0
226	21	25	130.36	70.495	-20.68	0	0	0
227	21	Totals:	-361.918	2880.897	98.454			
228	21	COG (in):	X: 0	Y: 31.15	Z: -69.315			
229	22	1	-165.556	449.34	0	0	0	0
230	22	3	78.193	43.483	0	0	0	0
231	22	7	-110.01	375.578	0	0	0	0
232	22	9	36.647	59.224	0	0	0	0
233	22	11	-148.074	584.818	0	0	0	0
234	22	13	57.711	59.224	0	0	0	0
235	22	15	-99.014	202.42	0	0	0	0
236	22	17	37.651	43.483	0	0	0	0
237	22	23	-343.916	992.832	0	0	0	0
238	22	25	173.813	70.495	0	0	0	0
239	22	Totals:	-482.557	2880.897	0			
240	22	COG (in):	X: 0	Y: 31.15	Z: -69.315			
241	23	1	-124.167	449.34	-32.551	0	0	0
242	23	3	58.644	43.483	14.21	0	0	0
243	23	7	-82.508	375.578	-26.815	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
244	23	9	27.485	59.224	9.224	0	0	0
245	23	11	-111.055	584.818	-35.523	0	0	0
246	23	13	43.283	59.224	13.932	0	0	0
247	23	15	-74.261	202.42	-24.754	0	0	0
248	23	17	28.238	43.483	9.413	0	0	0
249	23	23	-257.937	992.832	-46.271	0	0	0
250	23	25	130.36	70.495	20.68	0	0	0
251	23	Totals:	-361.918	2880.897	-98.454			
252	23	COG (in):	X: 0	Y: 31.15	Z: -69.315			
253	24	1	-41.389	449.34	-97.652	0	0	0
254	24	3	19.548	43.483	42.63	0	0	0
255	24	7	-27.503	375.578	-80.446	0	0	0
256	24	9	9.162	59.224	27.673	0	0	0
257	24	11	-37.018	584.818	-106.569	0	0	0
258	24	13	14.428	59.224	41.796	0	0	0
259	24	15	-24.754	202.42	-74.261	0	0	0
260	24	17	9.413	43.483	28.238	0	0	0
261	24	23	-85.979	992.832	-138.814	0	0	0
262	24	25	43.453	70.495	62.041	0	0	0
263	24	Totals:	-120.639	2880.897	-295.363			
264	24	COG (in):	X: 0	Y: 31.15	Z: -69.315			
265	25	1	0	449.34	-130.203	0	0	0
266	25	3	0	43.483	56.84	0	0	0
267	25	7	0	375.578	-107.261	0	0	0
268	25	9	0	59.224	36.898	0	0	0
269	25	11	0	584.818	-142.091	0	0	0
270	25	13	0	59.224	55.728	0	0	0
271	25	15	0	202.42	-99.014	0	0	0
272	25	17	0	43.483	37.651	0	0	0
273	25	23	0	992.832	-185.085	0	0	0
274	25	25	0	70.495	82.722	0	0	0
275	25	Totals:	0	2880.897	-393.817			
276	25	COG (in):	X: 0	Y: 31.15	Z: -69.315			
277	26	1	41.389	449.34	-97.652	0	0	0
278	26	3	-19.548	43.483	42.63	0	0	0
279	26	7	27.503	375.578	-80.446	0	0	0
280	26	9	-9.162	59.224	27.673	0	0	0
281	26	11	37.018	584.818	-106.569	0	0	0
282	26	13	-14.428	59.224	41.796	0	0	0
283	26	15	24.754	202.42	-74.261	0	0	0
284	26	17	-9.413	43.483	28.238	0	0	0
285	26	23	85.979	992.832	-138.814	0	0	0
286	26	25	-43.453	70.495	62.041	0	0	0
287	26	Totals:	120.639	2880.897	-295.363			
288	26	COG (in):	X: 0	Y: 31.15	Z: -69.315			
289	27	1	124.167	449.34	-32.551	0	0	0
290	27	3	-58.644	43.483	14.21	0	0	0
291	27	7	82.508	375.578	-26.815	0	0	0
292	27	9	-27.485	59.224	9.224	0	0	0
293	27	11	111.055	584.818	-35.523	0	0	0
294	27	13	-43.283	59.224	13.932	0	0	0
295	27	15	74.261	202.42	-24.754	0	0	0
296	27	17	-28.238	43.483	9.413	0	0	0
297	27	23	257.937	992.832	-46.271	0	0	0
298	27	25	-130.36	70.495	20.68	0	0	0
299	27	Totals:	361.918	2880.897	-98.454			
300	27	COG (in):	X: 0	Y: 31.15	Z: -69.315			

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	1	max	825.872	3	449.34	27	498.695	6	0	27	0	27	0	27
2		min	-825.872	9	182.177	3	-498.695	12	0	1	0	1	0	1
3	3	max	431.838	9	43.483	27	235.662	12	0	27	0	27	0	27
4		min	-431.838	3	16.682	3	-235.662	6	0	1	0	1	0	1
5	7	max	365.746	3	375.578	27	340.082	6	0	27	0	27	0	27
6		min	-365.746	9	184.907	3	-340.082	12	0	1	0	1	0	1
7	9	max	101.712	9	59.224	27	104.049	12	0	27	0	27	0	27
8		min	-101.712	3	26.432	3	-104.049	6	0	1	0	1	0	1
9	11	max	596.539	3	584.818	27	500.042	6	0	27	0	27	0	27
10		min	-596.539	9	265.547	3	-500.042	12	0	1	0	1	0	1
11	13	max	227.506	9	59.224	27	192.009	12	0	27	0	27	0	27
12		min	-227.506	3	26.432	3	-192.009	6	0	1	0	1	0	1
13	15	max	287.84	3	202.42	27	287.84	6	0	27	0	27	0	27
14		min	-287.84	9	77.657	3	-287.84	12	0	1	0	1	0	1
15	17	max	108.806	9	43.483	27	108.806	12	0	27	0	27	0	27
16		min	-108.806	3	16.682	3	-108.806	6	0	1	0	1	0	1
17	23	max	2312.154	3	992.832	27	1033.326	6	0	27	0	27	0	27
18		min	-2312.154	9	299.623	3	-1033.326	12	0	1	0	1	0	1
19	25	max	1233.854	9	70.495	27	494.026	12	0	27	0	27	0	27
20		min	-1233.854	3	32.523	3	-494.026	6	0	1	0	1	0	1
21	Totals:	max	2284.433	3	2880.897	27	1525.433	6						
22		min	-2284.433	9	1128.663	3	-1525.433	12						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code ...	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M1	PIPE_2.5	.516	111.042	9	.032	111....		9	12179.2...	50715	3596.25	3596.25	1...	H1-1b
2	M2	PIPE_2.5	.158	111.042	12	.016	111....		9	12179.2...	50715	3596.25	3596.25	1	H1-1b
3	M3	PIPE_2.5	.297	111.042	9	.024	111....		9	12179.2...	50715	3596.25	3596.25	1...	H1-1b
4	M4	PIPE_2.5	.157	111.042	12	.011	111....		12	12179.2...	50715	3596.25	3596.25	1	H1-1b
5	M5	PIPE_3.0X	.671	111.042	9	.053	111....		9	31078.0...	89145	7638.75	7638.75	1...	H1-1b

ASD for anchor check

Load Combinations

	Description	S...	P...	S...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL		Y		DL	1.4																
2																						
3	1.2DL + WLX		Y		DL	1.2	WLX	1														
4	1.2DL + 0.75WLX + 0.25WLZ		Y		DL	1.2	WLX	.75	WLZ	.25												
5	1.2DL + 0.25WLX + 0.75WLZ		Y		DL	1.2	WLX	.25	WLZ	.75												
6	1.2DL + WLZ		Y		DL	1.2	WLZ	1														
7	1.2DL + 0.25WL-X + 0.75WLZ		Y		DL	1.2	WLX	-.25	WLZ	.75												
8	1.2DL + 0.75WL-X + 0.25WLZ		Y		DL	1.2	WLX	-.75	WLZ	.25												
9	1.2DL + WL-X		Y		DL	1.2	WLX	-1														
10	1.2DL + 0.75WL-X + 0.25WL-Z		Y		DL	1.2	WLX	-.75	WLZ	-.25												
11	1.2DL + 0.25WL-X + 0.75WL-Z		Y		DL	1.2	WLX	-.25	WLZ	-.75												
12	1.2DL + WL-Z		Y		DL	1.2	WLZ	-1														
13	1.2DL + 0.25WLX + 0.75WL-Z		Y		DL	1.2	WLX	.25	WLZ	-.75												
14	1.2DL + 0.75WLX + 0.25WL-Z		Y		DL	1.2	WLX	.75	WLZ	-.25												
15																						
16	1.2DL + DLi + WLXi		Y		DL	1.2	OL1	1	WL+X	1												
17	1.2DL + DLi + 0.75WLXi + 0.25WLZi		Y		DL	1.2	OL1	1	WL+X	.75...	.25											
18	1.2DL + DLi + 0.25WLXi + 0.75WLZi		Y		DL	1.2	OL1	1	WL+X	.25...	.75											
19	1.2DL + DLi + WLZi		Y		DL	1.2	OL1	1	WL+Z	1												
20	1.2DL + DLi + 0.25WL-Xi + 0.75WLZi		Y		DL	1.2	OL1	1	WL+X	-.25...	.75											
21	1.2DL + DLi + 0.75WL-Xi + 0.25WLZi		Y		DL	1.2	OL1	1	WL+X	-.75...	.25											
22	1.2DL + DLi + WL-Xi		Y		DL	1.2	OL1	1	WL+X	-1												
23	1.2DL + DLi + 0.75WL-Xi + 0.25WL-Zi		Y		DL	1.2	OL1	1	WL+X	-.75...	-.25											
24	1.2DL + DLi + 0.25WL-Xi + 0.75WL-Zi		Y		DL	1.2	OL1	1	WL+X	-.25...	-.75											
25	1.2DL + DLi + WL-Zi		Y		DL	1.2	OL1	1	WL+Z	-1												
26	1.2DL + DLi + 0.25WLXi + 0.75WL-Zi		Y		DL	1.2	OL1	1	WL+X	.25...	-.75											
27	1.2DL + DLi + 0.75WLXi + 0.25WL-Zi		Y		DL	1.2	OL1	1	WL+X	.75...	-.25											
28																						
29	DL	Y...	Y		DL	1																
30																						
31	DL + 0.6WLX	Y...	Y		DL	1	WLX	.6														
32	DL + 0.6(.75WLX + 0.25WLZ)	Y...	Y		DL	1	WLX	.45	WLZ	.15												
33	DL + 0.6(0.25WLX + 0.75WLZ)	Y...	Y		DL	1	WLX	.15	WLZ	.45												
34	DL + 0.6WLZ	Y...	Y		DL	1	WLZ	.6														
35	DL + 0.6(0.25WL-X + 0.75WLZ)	Y...	Y		DL	1	WLX	-.15	WLZ	.45												
36	DL + 0.6(0.75WL-X + 0.25WLZ)	Y...	Y		DL	1	WLX	-.45	WLZ	.15												
37	DL + 0.6WL-X	Y...	Y		DL	1	WLX	-.6														
38	DL + 0.6(0.75WL-X + 0.25WL-Z)	Y...	Y		DL	1	WLX	-.45	WLZ	-.15												
39	DL + 0.6(0.25WL-X + 0.75WL-Z)	Y...	Y		DL	1	WLX	-.15	WLZ	-.45												
40	DL + 0.6WL-Z	Y...	Y		DL	1	WLZ	.6														
41	DL + 0.6(0.25WLX + 0.75WL-Z)	Y...	Y		DL	1	WLX	.15	WLZ	-.45												
42	DL + 0.6(0.75WLX + 0.25WL-Z)	Y...	Y		DL	1	WLX	.45	WLZ	-.15												
43																						
44	DL + 0.7DLi + 0.7WLXi	Y...	Y		DL	1	OL1	.7	WL+X	.7												
45	DL + 0.7DLi + 0.7(0.75WLXi + 0.25WLZi)	Y...	Y		DL	1	OL1	.7	WL+X	.525...	.175											
46	DL + 0.7DLi + 0.7(0.25WLXi + 0.75WLZi)	Y...	Y		DL	1	OL1	.7	WL+X	.175...	.525											
47	DL + 0.7DLi + 0.7WLZi	Y...	Y		DL	1	OL1	.7	WL+Z	.7												
48	DL + 0.7DLi + 0.7(0.25WL-Xi + 0.75WL...	Y...	Y		DL	1	OL1	.7	WL+X	-.1.....	.525											
49	DL + 0.7DLi + 0.7(0.75WL-Xi + 0.25WL...	Y...	Y		DL	1	OL1	.7	WL+X	-.5.....	.175											
50	DL + 0.7DLi + 0.7WL-Xi	Y...	Y		DL	1	OL1	.7	WL+X	-.7												
51	DL + 0.7DLi + 0.7(0.75WL-Xi + 0.25WL...	Y...	Y		DL	1	OL1	.7	WL+X	-.5.....	-.1...											
52	DL + 0.7DLi + 0.7(0.25WL-Xi + 0.75WL...	Y...	Y		DL	1	OL1	.7	WL+X	-.1.....	-.5...											
53	DL + 0.7DLi + 0.7WL-Zi	Y...	Y		DL	1	OL1	.7	WL+Z	-.7												
54	DL + 0.7DLi + 0.7(0.25WLXi + 0.75WL-...	Y...	Y		DL	1	OL1	.7	WL+X	.175...	-.5...											
55	DL + 0.7DLi + 0.7(0.75WLXi + 0.25WL-...	Y...	Y		DL	1	OL1	.7	WL+X	.525...	-.1...											

Joint Reactions (By Combination)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
1	29	1	0	151.814	0	0	0	0
2	29	3	0	13.902	0	0	0	0
3	29	7	0	154.089	0	0	0	0
4	29	9	0	22.027	0	0	0	0
5	29	11	0	221.289	0	0	0	0
6	29	13	0	22.027	0	0	0	0
7	29	15	0	64.714	0	0	0	0
8	29	17	0	13.902	0	0	0	0
9	29	23	0	249.686	0	0	0	0
10	29	25	0	27.102	0	0	0	0
11	29	Totals:	0	940.553	0			
12	29	COG (in):	X: 0	Y: 25.421	Z: -68.762			
13	31	1	494.951	151.814	0	0	0	0
14	31	3	-258.531	13.902	0	0	0	0
15	31	7	219.384	154.089	0	0	0	0
16	31	9	-60.964	22.027	0	0	0	0
17	31	11	357.712	221.289	0	0	0	0
18	31	13	-136.292	22.027	0	0	0	0
19	31	15	172.639	64.714	0	0	0	0
20	31	17	-65.219	13.902	0	0	0	0
21	31	23	1386.417	249.686	0	0	0	0
22	31	25	-739.437	27.102	0	0	0	0
23	31	Totals:	1370.66	940.553	0			
24	31	COG (in):	X: 0	Y: 25.421	Z: -68.762			
25	32	1	371.213	151.814	74.722	0	0	0
26	32	3	-193.898	13.902	-35.267	0	0	0
27	32	7	164.538	154.089	50.996	0	0	0
28	32	9	-45.723	22.027	-15.591	0	0	0
29	32	11	268.284	221.289	74.961	0	0	0
30	32	13	-102.219	22.027	-28.756	0	0	0
31	32	15	129.48	64.714	43.16	0	0	0
32	32	17	-48.915	13.902	-16.305	0	0	0
33	32	23	1039.813	249.686	154.907	0	0	0
34	32	25	-554.578	27.102	-74.012	0	0	0
35	32	Totals:	1027.995	940.553	228.815			
36	32	COG (in):	X: 0	Y: 25.421	Z: -68.762			
37	33	1	123.738	151.814	224.166	0	0	0
38	33	3	-64.633	13.902	-105.801	0	0	0
39	33	7	54.846	154.089	152.989	0	0	0
40	33	9	-15.241	22.027	-46.774	0	0	0
41	33	11	89.428	221.289	224.882	0	0	0
42	33	13	-34.073	22.027	-86.267	0	0	0
43	33	15	43.16	64.714	129.48	0	0	0
44	33	17	-16.305	13.902	-48.915	0	0	0
45	33	23	346.604	249.686	464.722	0	0	0
46	33	25	-184.859	27.102	-222.037	0	0	0
47	33	Totals:	342.665	940.553	686.445			
48	33	COG (in):	X: 0	Y: 25.421	Z: -68.762			
49	34	1	0	151.814	298.889	0	0	0
50	34	3	0	13.902	-141.069	0	0	0
51	34	7	0	154.089	203.986	0	0	0
52	34	9	0	22.027	-62.366	0	0	0
53	34	11	0	221.289	299.843	0	0	0
54	34	13	0	22.027	-115.023	0	0	0
55	34	15	0	64.714	172.639	0	0	0
56	34	17	0	13.902	-65.219	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
57	34	23	0	249.686	619.629	0	0	0
58	34	25	0	27.102	-296.049	0	0	0
59	34	Totals:	0	940.553	915.26			
60	34	COG (in):	X: 0	Y: 25.421	Z: -68.762			
61	35	1	-123.738	151.814	224.166	0	0	0
62	35	3	64.633	13.902	-105.801	0	0	0
63	35	7	-54.846	154.089	152.989	0	0	0
64	35	9	15.241	22.027	-46.774	0	0	0
65	35	11	-89.428	221.289	224.882	0	0	0
66	35	13	34.073	22.027	-86.267	0	0	0
67	35	15	-43.16	64.714	129.48	0	0	0
68	35	17	16.305	13.902	-48.915	0	0	0
69	35	23	-346.604	249.686	464.722	0	0	0
70	35	25	184.859	27.102	-222.037	0	0	0
71	35	Totals:	-342.665	940.553	686.445			
72	35	COG (in):	X: 0	Y: 25.421	Z: -68.762			
73	36	1	-371.213	151.814	74.722	0	0	0
74	36	3	193.898	13.902	-35.267	0	0	0
75	36	7	-164.538	154.089	50.996	0	0	0
76	36	9	45.723	22.027	-15.591	0	0	0
77	36	11	-268.284	221.289	74.961	0	0	0
78	36	13	102.219	22.027	-28.756	0	0	0
79	36	15	-129.48	64.714	43.16	0	0	0
80	36	17	48.915	13.902	-16.305	0	0	0
81	36	23	-1039.813	249.686	154.907	0	0	0
82	36	25	554.578	27.102	-74.012	0	0	0
83	36	Totals:	-1027.995	940.553	228.815			
84	36	COG (in):	X: 0	Y: 25.421	Z: -68.762			
85	37	1	-494.951	151.814	0	0	0	0
86	37	3	258.531	13.902	0	0	0	0
87	37	7	-219.384	154.089	0	0	0	0
88	37	9	60.964	22.027	0	0	0	0
89	37	11	-357.712	221.289	0	0	0	0
90	37	13	136.292	22.027	0	0	0	0
91	37	15	-172.639	64.714	0	0	0	0
92	37	17	65.219	13.902	0	0	0	0
93	37	23	-1386.417	249.686	0	0	0	0
94	37	25	739.437	27.102	0	0	0	0
95	37	Totals:	-1370.66	940.553	0			
96	37	COG (in):	X: 0	Y: 25.421	Z: -68.762			
97	38	1	-371.213	151.814	-74.722	0	0	0
98	38	3	193.898	13.902	35.267	0	0	0
99	38	7	-164.538	154.089	-50.996	0	0	0
100	38	9	45.723	22.027	15.591	0	0	0
101	38	11	-268.284	221.289	-74.961	0	0	0
102	38	13	102.219	22.027	28.756	0	0	0
103	38	15	-129.48	64.714	-43.16	0	0	0
104	38	17	48.915	13.902	16.305	0	0	0
105	38	23	-1039.813	249.686	-154.907	0	0	0
106	38	25	554.578	27.102	74.012	0	0	0
107	38	Totals:	-1027.995	940.553	-228.815			
108	38	COG (in):	X: 0	Y: 25.421	Z: -68.762			
109	39	1	-123.738	151.814	-224.166	0	0	0
110	39	3	64.633	13.902	105.801	0	0	0
111	39	7	-54.846	154.089	-152.989	0	0	0
112	39	9	15.241	22.027	46.774	0	0	0
113	39	11	-89.428	221.289	-224.882	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
114	39	13	34.073	22.027	86.267	0	0	0
115	39	15	-43.16	64.714	-129.48	0	0	0
116	39	17	16.305	13.902	48.915	0	0	0
117	39	23	-346.604	249.686	-464.722	0	0	0
118	39	25	184.859	27.102	222.037	0	0	0
119	39	Totals:	-342.665	940.553	-686.445			
120	39	COG (in):	X: 0	Y: 25.421	Z: -68.762			
121	40	1	0	151.814	298.889	0	0	0
122	40	3	0	13.902	-141.069	0	0	0
123	40	7	0	154.089	203.986	0	0	0
124	40	9	0	22.027	-62.366	0	0	0
125	40	11	0	221.289	299.843	0	0	0
126	40	13	0	22.027	-115.023	0	0	0
127	40	15	0	64.714	172.639	0	0	0
128	40	17	0	13.902	-65.219	0	0	0
129	40	23	0	249.686	619.629	0	0	0
130	40	25	0	27.102	-296.049	0	0	0
131	40	Totals:	0	940.553	915.26			
132	40	COG (in):	X: 0	Y: 25.421	Z: -68.762			
133	41	1	123.738	151.814	-224.166	0	0	0
134	41	3	-64.633	13.902	105.801	0	0	0
135	41	7	54.846	154.089	-152.989	0	0	0
136	41	9	-15.241	22.027	46.774	0	0	0
137	41	11	89.428	221.289	-224.882	0	0	0
138	41	13	-34.073	22.027	86.267	0	0	0
139	41	15	43.16	64.714	-129.48	0	0	0
140	41	17	-16.305	13.902	48.915	0	0	0
141	41	23	346.604	249.686	-464.722	0	0	0
142	41	25	-184.859	27.102	222.037	0	0	0
143	41	Totals:	342.665	940.553	-686.445			
144	41	COG (in):	X: 0	Y: 25.421	Z: -68.762			
145	42	1	371.213	151.814	-74.722	0	0	0
146	42	3	-193.898	13.902	35.267	0	0	0
147	42	7	164.538	154.089	-50.996	0	0	0
148	42	9	-45.723	22.027	15.591	0	0	0
149	42	11	268.284	221.289	-74.961	0	0	0
150	42	13	-102.219	22.027	28.756	0	0	0
151	42	15	129.48	64.714	-43.16	0	0	0
152	42	17	-48.915	13.902	16.305	0	0	0
153	42	23	1039.813	249.686	-154.907	0	0	0
154	42	25	-554.578	27.102	74.012	0	0	0
155	42	Totals:	1027.995	940.553	-228.815			
156	42	COG (in):	X: 0	Y: 25.421	Z: -68.762			
157	44	1	115.42	338.828	0	0	0	0
158	44	3	-54.265	32.662	0	0	0	0
159	44	7	76.906	287.559	0	0	0	0
160	44	9	-25.552	44.981	0	0	0	0
161	44	11	103.401	444.779	0	0	0	0
162	44	13	-40.147	44.981	0	0	0	0
163	44	15	69.208	152.048	0	0	0	0
164	44	17	-26.254	32.662	0	0	0	0
165	44	23	239.929	734.932	0	0	0	0
166	44	25	-120.857	53.683	0	0	0	0
167	44	Totals:	337.79	2167.116	0			
168	44	COG (in):	X: 0	Y: 30.752	Z: -69.277			
169	45	1	86.565	338.828	22.697	0	0	0
170	45	3	-40.699	32.662	-9.858	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
171	45	7	57.68	287.559	18.745	0	0	0
172	45	9	-19.164	44.981	-6.432	0	0	0
173	45	11	77.551	444.779	24.805	0	0	0
174	45	13	-30.11	44.981	-9.692	0	0	0
175	45	15	51.906	152.048	17.302	0	0	0
176	45	17	-19.69	32.662	-6.563	0	0	0
177	45	23	179.947	734.932	32.288	0	0	0
178	45	25	-90.643	53.683	-14.374	0	0	0
179	45	Totals:	253.342	2167.116	68.918			
180	45	COG (in):	X: 0	Y: 30.752	Z: -69.277			
181	46	1	28.855	338.828	68.09	0	0	0
182	46	3	-13.566	32.662	-29.574	0	0	0
183	46	7	19.227	287.559	56.236	0	0	0
184	46	9	-6.388	44.981	-19.296	0	0	0
185	46	11	25.85	444.779	74.416	0	0	0
186	46	13	-10.037	44.981	-29.076	0	0	0
187	46	15	17.302	152.048	51.906	0	0	0
188	46	17	-6.563	32.662	-19.69	0	0	0
189	46	23	59.982	734.932	96.863	0	0	0
190	46	25	-30.214	53.683	-43.123	0	0	0
191	46	Totals:	84.447	2167.116	206.754			
192	46	COG (in):	X: 0	Y: 30.752	Z: -69.277			
193	47	1	0	338.828	90.786	0	0	0
194	47	3	0	32.662	-39.432	0	0	0
195	47	7	0	287.559	74.982	0	0	0
196	47	9	0	44.981	-25.727	0	0	0
197	47	11	0	444.779	99.222	0	0	0
198	47	13	0	44.981	-38.768	0	0	0
199	47	15	0	152.048	69.208	0	0	0
200	47	17	0	32.662	-26.254	0	0	0
201	47	23	0	734.932	129.151	0	0	0
202	47	25	0	53.683	-57.497	0	0	0
203	47	Totals:	0	2167.116	275.672			
204	47	COG (in):	X: 0	Y: 30.752	Z: -69.277			
205	48	1	-28.855	338.828	68.09	0	0	0
206	48	3	13.566	32.662	-29.574	0	0	0
207	48	7	-19.227	287.559	56.236	0	0	0
208	48	9	6.388	44.981	-19.296	0	0	0
209	48	11	-25.85	444.779	74.416	0	0	0
210	48	13	10.037	44.981	-29.076	0	0	0
211	48	15	-17.302	152.048	51.906	0	0	0
212	48	17	6.563	32.662	-19.69	0	0	0
213	48	23	-59.982	734.932	96.863	0	0	0
214	48	25	30.214	53.683	-43.123	0	0	0
215	48	Totals:	-84.447	2167.116	206.754			
216	48	COG (in):	X: 0	Y: 30.752	Z: -69.277			
217	49	1	-86.565	338.828	22.697	0	0	0
218	49	3	40.699	32.662	-9.858	0	0	0
219	49	7	-57.68	287.559	18.745	0	0	0
220	49	9	19.164	44.981	-6.432	0	0	0
221	49	11	-77.551	444.779	24.805	0	0	0
222	49	13	30.11	44.981	-9.692	0	0	0
223	49	15	-51.906	152.048	17.302	0	0	0
224	49	17	19.69	32.662	-6.563	0	0	0
225	49	23	-179.947	734.932	32.288	0	0	0
226	49	25	90.643	53.683	-14.374	0	0	0
227	49	Totals:	-253.342	2167.116	68.918			

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
228	49	COG (in):	X: 0	Y: 30.752	Z: -69.277			
229	50	1	-115.42	338.828	0	0	0	0
230	50	3	54.265	32.662	0	0	0	0
231	50	7	-76.906	287.559	0	0	0	0
232	50	9	25.552	44.981	0	0	0	0
233	50	11	-103.401	444.779	0	0	0	0
234	50	13	40.147	44.981	0	0	0	0
235	50	15	-69.208	152.048	0	0	0	0
236	50	17	26.254	32.662	0	0	0	0
237	50	23	-239.929	734.932	0	0	0	0
238	50	25	120.857	53.683	0	0	0	0
239	50	Totals:	-337.79	2167.116	0			
240	50	COG (in):	X: 0	Y: 30.752	Z: -69.277			
241	51	1	-86.565	338.828	-22.697	0	0	0
242	51	3	40.699	32.662	9.858	0	0	0
243	51	7	-57.68	287.559	-18.745	0	0	0
244	51	9	19.164	44.981	6.432	0	0	0
245	51	11	-77.551	444.779	-24.805	0	0	0
246	51	13	30.11	44.981	9.692	0	0	0
247	51	15	-51.906	152.048	-17.302	0	0	0
248	51	17	19.69	32.662	6.563	0	0	0
249	51	23	-179.947	734.932	-32.288	0	0	0
250	51	25	90.643	53.683	14.374	0	0	0
251	51	Totals:	-253.342	2167.116	-68.918			
252	51	COG (in):	X: 0	Y: 30.752	Z: -69.277			
253	52	1	-28.855	338.828	-68.09	0	0	0
254	52	3	13.566	32.662	29.574	0	0	0
255	52	7	-19.227	287.559	-56.236	0	0	0
256	52	9	6.388	44.981	19.296	0	0	0
257	52	11	-25.85	444.779	-74.416	0	0	0
258	52	13	10.037	44.981	29.076	0	0	0
259	52	15	-17.302	152.048	-51.906	0	0	0
260	52	17	6.563	32.662	19.69	0	0	0
261	52	23	-59.982	734.932	-96.863	0	0	0
262	52	25	30.214	53.683	43.123	0	0	0
263	52	Totals:	-84.447	2167.116	-206.754			
264	52	COG (in):	X: 0	Y: 30.752	Z: -69.277			
265	53	1	0	338.828	-90.786	0	0	0
266	53	3	0	32.662	39.432	0	0	0
267	53	7	0	287.559	-74.982	0	0	0
268	53	9	0	44.981	25.727	0	0	0
269	53	11	0	444.779	-99.222	0	0	0
270	53	13	0	44.981	38.768	0	0	0
271	53	15	0	152.048	-69.208	0	0	0
272	53	17	0	32.662	26.254	0	0	0
273	53	23	0	734.932	-129.151	0	0	0
274	53	25	0	53.683	57.497	0	0	0
275	53	Totals:	0	2167.116	-275.672			
276	53	COG (in):	X: 0	Y: 30.752	Z: -69.277			
277	54	1	28.855	338.828	-68.09	0	0	0
278	54	3	-13.566	32.662	29.574	0	0	0
279	54	7	19.227	287.559	-56.236	0	0	0
280	54	9	-6.388	44.981	19.296	0	0	0
281	54	11	25.85	444.779	-74.416	0	0	0
282	54	13	-10.037	44.981	29.076	0	0	0
283	54	15	17.302	152.048	-51.906	0	0	0
284	54	17	-6.563	32.662	19.69	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
285	54	23	59.982	734.932	-96.863	0	0	0
286	54	25	-30.214	53.683	43.123	0	0	0
287	54	Totals:	84.447	2167.116	-206.754			
288	54	COG (in):	X: 0	Y: 30.752	Z: -69.277			
289	55	1	86.565	338.828	-22.697	0	0	0
290	55	3	-40.699	32.662	9.858	0	0	0
291	55	7	57.68	287.559	-18.745	0	0	0
292	55	9	-19.164	44.981	6.432	0	0	0
293	55	11	77.551	444.779	-24.805	0	0	0
294	55	13	-30.11	44.981	9.692	0	0	0
295	55	15	51.906	152.048	-17.302	0	0	0
296	55	17	-19.69	32.662	6.563	0	0	0
297	55	23	179.947	734.932	-32.288	0	0	0
298	55	25	-90.643	53.683	14.374	0	0	0
299	55	Totals:	253.342	2167.116	-68.918			
300	55	COG (in):	X: 0	Y: 30.752	Z: -69.277			

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	1	max	494.951	31	338.828	55	298.889	40	0	55	0	55	0	55
2		min	-494.951	37	151.814	29	-224.166	39	0	29	0	29	0	29
3	3	max	258.531	37	32.662	55	105.801	41	0	55	0	55	0	55
4		min	-258.531	31	13.902	29	-141.069	34	0	29	0	29	0	29
5	7	max	219.384	31	287.559	55	203.986	40	0	55	0	55	0	55
6		min	-219.384	37	154.089	29	-152.989	39	0	29	0	29	0	29
7	9	max	60.964	37	44.981	55	46.774	41	0	55	0	55	0	55
8		min	-60.964	31	22.027	29	-62.366	34	0	29	0	29	0	29
9	11	max	357.712	31	444.779	55	299.843	40	0	55	0	55	0	55
10		min	-357.712	37	221.289	29	-224.882	39	0	29	0	29	0	29
11	13	max	136.292	37	44.981	55	86.267	41	0	55	0	55	0	55
12		min	-136.292	31	22.027	29	-115.023	34	0	29	0	29	0	29
13	15	max	172.639	31	152.048	55	172.639	40	0	55	0	55	0	55
14		min	-172.639	37	64.714	29	-129.48	39	0	29	0	29	0	29
15	17	max	65.219	37	32.662	55	48.915	41	0	55	0	55	0	55
16		min	-65.219	31	13.902	29	-65.219	34	0	29	0	29	0	29
17	23	max	1386.417	31	734.932	55	619.629	40	0	55	0	55	0	55
18		min	-1386.417	37	249.686	29	-464.722	39	0	29	0	29	0	29
19	25	max	739.437	37	53.683	55	222.037	41	0	55	0	55	0	55
20		min	-739.437	31	27.102	29	-296.049	34	0	29	0	29	0	29
21	Totals:	max	1370.66	31	2167.116	55	915.26	40						
22		min	-1370.66	37	940.553	29	-686.445	39						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	1	max	0	55	0	55	0	55	2.69e-3	41	0	55	6.281e-3	31
2		min	0	29	0	29	0	29	-3.587e-3	34	0	29	-6.281e-3	37
3	2	max	1.929	37	0	42	.831	41	8.947e-3	41	0	55	2.061e-2	31
4		min	-1.929	31	0	44	-1.108	34	-1.193e-2	34	0	29	-2.061e-2	37
5	3	max	0	55	0	55	0	55	1.727e-3	40	0	55	3.055e-3	37
6		min	0	29	0	29	0	29	-1.295e-3	39	0	29	-3.055e-3	31
7	4	max	.015	37	0	42	.006	41	1.727e-3	40	0	55	3.056e-3	37
8		min	-.015	31	0	44	-.009	34	-1.295e-3	39	0	29	-3.056e-3	31
9	7	max	0	55	0	55	0	55	1.343e-3	41	0	55	1.762e-3	31
10		min	0	29	0	29	0	29	-1.79e-3	34	0	29	-1.762e-3	37

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
11	8	max	.567	37	0	42	.428	41	4.69e-3	41	0	55	6.225e-3	31
12		min	-.567	31	0	44	-.57	34	-6.253e-3	34	0	29	-6.225e-3	37
13	9	max	0	55	0	55	0	55	8.365e-4	40	0	55	8.208e-4	37
14		min	0	29	0	29	0	29	-6.274e-4	39	0	29	-8.208e-4	31
15	10	max	.004	37	0	42	.003	41	8.369e-4	40	0	55	8.212e-4	37
16		min	-.004	31	0	44	-.004	34	-6.277e-4	39	0	29	-8.212e-4	31
17	11	max	0	55	0	55	0	55	2.249e-3	41	0	55	3.49e-3	31
18		min	0	29	0	29	0	29	-2.998e-3	34	0	29	-3.49e-3	37
19	12	max	1.056	37	0	42	.686	41	7.367e-3	41	0	55	1.129e-2	31
20		min	-1.056	31	0	44	-.915	34	-9.823e-3	34	0	29	-1.129e-2	37
21	13	max	0	55	0	55	0	55	1.432e-3	40	0	55	1.672e-3	37
22		min	0	29	0	29	0	29	-1.074e-3	39	0	29	-1.672e-3	31
23	14	max	.008	37	0	42	.005	41	1.432e-3	40	0	55	1.673e-3	37
24		min	-.008	31	0	44	-.007	34	-1.074e-3	39	0	29	-1.673e-3	31
25	15	max	0	55	0	55	0	55	1.386e-3	41	0	55	1.847e-3	31
26		min	0	29	0	29	0	29	-1.847e-3	34	0	29	-1.847e-3	37
27	16	max	.577	37	0	42	.433	41	4.733e-3	41	0	55	6.311e-3	31
28		min	-.577	31	0	44	-.577	34	-6.311e-3	34	0	29	-6.311e-3	37
29	17	max	0	55	0	55	0	55	8.687e-4	40	0	55	8.687e-4	37
30		min	0	29	0	29	0	29	-6.515e-4	39	0	29	-8.687e-4	31
31	18	max	.004	37	0	42	.003	41	8.691e-4	40	0	55	8.691e-4	37
32		min	-.004	31	0	44	-.004	34	-6.518e-4	39	0	29	-8.691e-4	31
33	23	max	0	55	0	55	0	55	2.129e-3	41	0	55	6.834e-3	31
34		min	0	29	0	29	0	29	-2.838e-3	34	0	29	-6.834e-3	37
35	24	max	2.094	37	0	42	.657	41	7.018e-3	41	0	55	2.222e-2	31
36		min	-2.094	31	0	44	-.876	34	-9.357e-3	34	0	29	-2.222e-2	37
37	25	max	0	55	0	55	0	55	1.369e-3	40	0	55	3.326e-3	37
38		min	0	29	0	29	0	29	-1.027e-3	39	0	29	-3.326e-3	31
39	26	max	.017	37	0	42	.005	41	1.369e-3	40	0	55	3.326e-3	37
40		min	-.017	31	0	44	-.007	34	-1.027e-3	39	0	29	-3.326e-3	31
41	MT6407-77A	max	0	55	0	55	0	55	0	55	0	55	0	55
42		min	0	29	0	29	0	29	0	29	0	29	0	29
43	(RFV01U-D...	max	0	55	0	55	0	55	0	55	0	55	0	55
44		min	0	29	0	29	0	29	0	29	0	29	0	29
45	CBRSRRH...	max	0	55	0	55	0	55	0	55	0	55	0	55
46		min	0	29	0	29	0	29	0	29	0	29	0	29
47	(2)SBNHH-...	max	0	55	0	55	0	55	0	55	0	55	0	55
48		min	0	29	0	29	0	29	0	29	0	29	0	29
49	RHSDC-33...	max	.024	31	0	42	.01	40	1.613e-3	41	0	55	5.194e-3	31
50		min	-.024	37	0	44	-.007	39	-2.151e-3	34	0	29	-5.194e-3	37
51	(2)KAELUS...	max	.272	37	0	42	.175	41	6.139e-3	41	0	55	9.49e-3	31
52		min	-.272	31	0	44	-.234	34	-8.186e-3	34	0	29	-9.49e-3	37
53	(RFV01U-D...	max	.012	31	0	42	.01	40	1.694e-3	41	0	55	2.631e-3	31
54		min	-.012	37	0	44	-.008	39	-2.259e-3	34	0	29	-2.631e-3	37

ALL-POINTS TECHNOLOGY CORPORATION

Project ID:	CT141_14170
Site Name:	East Windsor 2
Date:	8/11/2023

Mounts 1, 2, 4, & 5:

Existing Connection consists of four (4) 3/8" SS Dia welded studs.

T_{allow} =	1616.7	lbs	*(With a safety factor of 3)*
V_{allow} =	1516.7	lbs	
Anchor Quantity =	4.0		

Per RISA Analysis, Max loading occurs at: N1, LC31

T_{max} =	495.0	lbs
V_{max} =	90	lbs

Interaction:

$$\frac{494.951}{6466.667} + \frac{90}{6066.667} = 0.091 < 1.0 \text{ OK}$$

Therefore, the anchors are adequate to support the proposed loading.

Mount 3:

Assume existing connection consists of eight (8) 1/4" Dia welded CD studs.

T_{allow} =	583.3	lbs	*(With a safety factor of 3)*
V_{allow} =	433.3	lbs	
Anchor Quantity =	8.0		

Per RISA Analysis, Max loading occurs at: N23, LC31

T_{max} =	1386.4	lbs
V_{max} =	140	lbs

Interaction:

$$\frac{1386.417}{4666.667} + \frac{140}{3466.667} = 0.337 < 1.0 \text{ OK}$$

Therefore, the anchors are adequate to support the proposed loading.

Appendix C

Water tank Analysis

ALL-POINTS TECHNOLOGY CORPORATION

Project ID:	CT141_14170
Site Name:	East Windsor 2 CT
Date:	8/17/2023

(Based on AWWA D100-2005)

Site Name:	East Windsor 2 CT
Site Address:	104 Prospect Hill Road East Windsor, CT 06088
Site County:	Hartford

Design Criteria			
Ultimate Basic Wind Speed, V_{ULT} =	130	mph	*2022 CTSBC, Appendix P*
Nominal Basic Wind Speed, V_{ASD} =	101	mph	*2022 CTSBC, Appendix P*
Type of Structure =	Water Tank		
Structure Height =	100	ft, +/-	
Risk Category =	III		
Structure Class =	III	*Section 3.1.4*	
Exposure Category =	C	*Section 2.6.5*	
G_h =	1.00	*Section 3.1.4*	
Importance Factor, I =	1.00	*Section 3.1.4, See note 1.*	
q_z' =	**26.11**	**psf**	

Notes:

1. Since the Risk Category III-IV wind speeds takes into account the importance factor, Importance factor here shall be taken as 1.

ALL-POINTS TECHNOLOGY CORPORATION

Project ID: CT141_14170
Site Name: East Windsor 2 CT
Date: 8/17/2023

(Based on AWWA D100-2005)

Design Criteria: *(From Previous Sheet)*

$q_z' =$ **26.11 psf**

$G_h =$ 1.00 Section 3.1.4

Description	# / Sector	Elev. z, ft	K_z	C_f	P_w, psf	Dimensions Height, in	Width, in	Depth, in	Wght., lbs	Wind Area, ft² Front	Side	Wind Load, lbs EA Front	Side	Weight, lbs
T-MOBILE:														
AIR 6449 B41	1.0	98.0	1.263	1.0	32.98	33.1	20.5	8.3	103.0	4.72	1.909	155.5	63.0	103
APXVAALL24_43-U-NA20	1.0	98.0	1.263	1.0	32.98	95.9	24.0	8.5	149.9	15.98	5.660	527.0	186.6	149.9
CBC1921Y-DS	1.0	98.0	1.263	1.0	32.98	7.6	13.2	5.4	8.6	0.69	0.284	22.9	9.3	8.6
RRU 4449 B71+B85	1.0	92.0	1.241	1.0	32.41	14.9	13.2	5.4	46.3	1.36	0.558	44.2	18.1	46.3
RRUS 4415 B25	1.0	89.0	1.230	1.0	32.13	15.0	13.2	10.4	75.0	1.38	1.083	44.2	34.8	75
KRY 112 144/2	1.0	98.0	1.263	1.0	32.98	8.6	6.7	3.2	9.7	0.40	0.191	13.2	6.3	9.7
AIR-32 B2A/B66A	1.0	98.0	1.263	1.0	32.98	56.6	12.9	8.7	132.2	5.07	3.422	167.3	112.8	132.2
VERIZON														
SBNHH-1D65B	2.0	87.0	1.223	1.0	31.94	72.9	11.9	7.1	53.0	6.02	3.594	192.4	114.8	105.9
MT6407-77A	1.0	87.0	1.223	1.0	31.94	35.1	16.1	5.5	87.1	3.92	1.341	125.4	42.8	87.1
CBRS RRH w/ CLIP ON ANTENNA	1.0	87.0	1.223	1.0	31.94	16.8	9.6	6.9	32.00	1.12	0.805	35.8	25.7	32.0
B5/B13 700/850 RRH	1.0	82.0	1.205	1.0	31.47	15.0	15.0	8.1	70.3	1.56	0.844	49.2	26.6	70.3
B2/B66 PCS/AWS RRH	1.0	82.0	1.205	1.0	31.47	15.0	15.0	10.0	84.4	1.56	1.039	49.0	32.7	84.4
KAELUS KA-6030	2.0	84.5	1.205	1.0	31.47	10.6	10.9	3.2	17.6	0.80	0.236	25.3	7.4	35.2
6 OVP	1.0	82.0	1.205	1.0	31.47	21.6	15.7	10.3	32.0	2.36	1.545	74.1	48.6	32.0
AT&T														
KATHREIN 800-10121	1.0	78.0	1.191	1.0	31.10	96.0	11.9	7.1	72.6	7.93	4.733	246.7	147.2	72.6
CCI TPA-65R-LCUUUU-H8	1.0	78.0	1.191	1.0	31.10	96.0	14.4	8.6	96.6	9.60	5.733	298.5	178.3	96.6
CCI HPA-65R-BUU-H8	1.0	78.0	1.191	1.0	31.10	92.4	14.8	7.4		9.50	4.748	295.3	147.7	0.0
RADIO 4478	1.0	72.0	1.169	1.0	30.53	16.5	13.4	7.7	59.5	1.54	0.882	46.9	26.9	59.5
RRUS-32	1.0	72.0	1.169	1.0	30.53	27.2	12.1	7.0	52.9	2.27	1.323	69.4	40.4	52.9
RRUS-11	1.0	72.0	1.169	1.0	30.53	19.7	17.0	7.2	50.7	2.32	0.980	70.8	29.9	50.7
RRUS-12	1.0	72.0	1.169	1.0	30.53	20.4	18.5	7.5	58.0	2.62	1.063	80.0	32.4	58.0
RRUS-A2	1.0	72.0	1.169	1.0	30.53	16.4	15.1	3.4	22.0	1.72	0.387	52.5	11.8	22.0
LGP 21401	1.0	72.0	1.169	1.0	30.53	14.4	9.2	2.6	14.1	0.92	0.260	28.1	7.9	14.1
RAYCAP DC6-48-60-18-8F	1.0	72.0	1.169	0.6	18.32	17.9	10.2	10.2	28.0	1.27	1.274	23.3	23.3	26.2

ALL-POINTS TECHNOLOGY CORPORATION

Project ID: CT141_14170
Site Name: East Windsor 2 CT
Date: 8/17/2023

(Based on AWWA D100-2005)

Design Criteria: *(From Previous Sheet)*

q_z' = **26.11** **psf** G_h = 1.00 Section 3.1.4

Description	Elev. z, ft	K_z	C_f	P_w, psf	Dimensions Width, in	Depth, in	Wght., lbs/ft	Length, ft	Area, ft^2	Wind Load, lbs EA
T-MOBILE:										
Mounting Frame	92.0	1.241	0.6	19.45	-	-	-	-	18.3	355.1
VERIZON										
2.5" STD Pipe	85.7	1.219	0.6	19.09	2.875	2.875	5.79	13.6	-	62.2
3.0" XS Pipe	85.7	1.219	0.6	19.09	3.500	3.500	10.30	13.6	-	75.7
AT&T										
2.5" STD Pipe	78.0	1.191	0.6	18.66	2.875	2.875	5.79	6.0	-	26.8
2.0" STD Pipe (Mast)	76.0	1.184	0.6	18.55	2.375	2.375	3.65	12.0	-	44.0
2.0" STD Pipe (Top Horz)	80.0	1.198	0.6	18.77	2.375	2.375	3.65	7.5	-	27.9
2.0" STD Pipe (Bot Horz)	75.0	1.180	0.6	18.49	2.375	2.375	3.65	7.5	-	27.4
MISC.:										
Cable Tray	35	1.090	1.0	30.00	6.000	24.000	6.00	80	-	1200.0

EXIST. STRUCTURE:					Dia, ft	Height, ft	Area, ft^2	WL, lbs		WL, kips
Tank (>50')	66.8	1.150	0.6	18.02	65.25	33.50	2185.9	39397.7		39.8
Tank (<50')	25.0	1.090	0.6	18.00	65.25	50.00	3262.5	58725.0	*Add 1 % for Misc. Components*	59.3
Roof	90.6	1.236	0.5	16.14	-		859.6	13874.5		14.0

ALL-POINTS TECHNOLOGY CORPORATION

(Based on AWWA D100-2005)

Project ID: CT141_14170
Site Name: East Windsor 2 CT
Date: 8/17/2023

Description	# / Sector	Elev., z, ft	Alpha / Sector 1 Direction / Shielded?	Reduct. Factor	Wind Load, lbs	Wind Force, lbs	Beta / Sector 2 Direction / Shielded?	Reduct. Factor	Wind Load, lbs	Wind Force, lbs	Gamma / Sector 3 Direction / Shielded?	Reduct. Factor	Wind Load, lbs	Wind Force, lbs	Wind Force, lbs	Wind Moment, lbs-ft
T-MOBILE:																
AIR 6449 B41	1.0	98.0	N / N	1.0	155.5	155.5	N / N	1.0	155.5	155.5	T / N	1.0	63.0	63.0	373.9	36645.3
APXVAALL24_43-U-NA20	1.0	98.0	N / N	1.0	527.0	527.0	N / N	1.0	527.0	527.0	T / N	1.0	186.6	186.6	1240.6	121578.7
CBC1921Y-DS	1.0	98.0	N / N	1.0	22.9	22.9	N / N	1.0	22.9	22.9	T / N	1.0	9.3	9.3	55.1	5395.5
RRU 4449 B71+B85	1.0	92.0	N / N	1.0	44.2	44.2	N / N	1.0	44.2	44.2	T / N	1.0	18.1	18.1	106.5	9799.0
RRUS 4415 B25	1.0	89.0	N / N	1.0	44.2	44.2	N / N	1.0	44.2	44.2	T / N	1.0	34.8	34.8	123.2	10962.1
KRY 112 144/2	1.0	98.0	N / N	1.0	13.2	13.2	N / N	1.0	13.2	13.2	T / N	1.0	6.3	6.3	32.6	3197.5
AIR-32 B2A/B66A	1.0	98.0	N / N	1.0	167.3	167.3	N / N	1.0	167.3	167.3	T / N	1.0	112.8	112.8	447.5	43855.4
Mounting Frames	3.0	92.0	N / P	0.8	355.1	852.3	N / P	0.8	355.1	852.3	T / N	0.8	355.1	852.3	2556.9	235232.2
VERIZON:																
SBNHH-1D65B	2.0	87	T / P	0.5	114.8	114.8	N / Y	0.0	192.4	0.0	T / P	0.5	114.8	114.8	229.6	19978.0
MT6407-77A	1.0	87	T / N	1.0	42.8	42.8	N / Y	0.0	125.4	0.0	T / N	1.0	42.8	42.8	85.6	7451.4
CBRS RRH w/ CLIP ON ANTENNA	1.0	87	T / N	1.0	25.7	25.7	N / Y	0.0	35.8	0.0	T / N	1.0	25.7	25.7	51.4	4474.3
B5/B13 700/850 RRH	1.0	82	T / N	1.0	26.6	26.6	N / Y	0.0	49.2	0.0	T / N	1.0	26.6	26.6	53.1	4355.1
B2/B66 PCS/AWS RRH	1.0	82	T / N	1.0	32.7	32.7	N / Y	0.0	49.0	0.0	T / N	1.0	32.7	32.7	65.4	5362.3
KAELUS KA-6030	2.0	84.5	T / N	2.0	7.4	29.7	N / Y	1.0	25.3	50.5	T / N	2.0	7.4	29.7	109.8	9279.4
6 OVP	1.0	82	T / N	1.0	48.6	48.6	N / Y	0.0	74.1	0.0	T / N	1.0	48.6	48.6	97.3	7974.7
Exist. Pipes	4.0	85.7	T / N	1.0	62.2	248.8	N / Y	0.0	77.3	0.0	T / N	1.0	77.3	309.2	558.0	47824.1
Prop. Pipe	1.0	85.7	T / N	1.0	94.1	94.1	N / Y	0.0	94.1	0.0	T / N	1.0	94.1	94.1	188.2	16128.7
AT&T:																
KATHREIN 800-10966	1.0	78	N / Y	0.0	306.6	0.0	T / N	1.0	182.9	182.9	N / Y	0.0	306.6	0.0	182.9	14266.2
CCI TPA-65R-LCUUUU-H8	1.0	78	N / Y	0.0	371.0	0.0	T / N	1.0	221.6	221.6	N / Y	0.0	371.0	0.0	221.6	17284.8
CCI HPA-65R-BUU-H8	1.0	78	N / Y	0.0	367.1	0.0	T / N	1.0	183.5	183.5	N / Y	0.0	367.1	0.0	183.5	14313.0
RADIO 4478	1.0	72	N / Y	0.0	65.1	0.0	T / N	1.0	40.1	40.1	N / Y	0.0	65.1	0.0	40.1	2887.2
RRUS-32	1.0	72	N / Y	0.0	87.9	0.0	T / N	1.0	51.1	51.1	N / Y	0.0	87.9	0.0	51.1	3679.2
RRUS-11	1.0	72	N / Y	0.0	89.7	0.0	T / N	1.0	37.9	37.9	N / Y	0.0	89.7	0.0	37.9	2728.8
RRUS-12	1.0	72	N / Y	0.0	101.3	0.0	T / N	1.0	41.1	41.1	N / Y	0.0	101.3	0.0	41.1	2959.2
RRUS-A2	1.0	72	N / Y	0.0	66.5	0.0	T / N	1.0	15.0	15.0	N / Y	0.0	66.5	0.0	15.0	1080.0
LGP21401	1.0	72	N / Y	0.0	12.9	0.0	T / N	1.0	4.3	4.3	N / Y	0.0	12.9	0.0	4.3	309.6
Raycap DC6-48-60-18-8F	1.0	72	N / Y	0.0	32.8	0.0	T / N	1.0	32.8	32.8	N / Y	0.0	32.8	0.0	32.8	2361.6
Pipes	4.0	78	N / Y	0.0	33.3	0.0	T / N	1.0	33.3	133.2	N / Y	0.0	33.3	0.0	133.2	10389.6
New Pipes	1.0	76	N / Y	0.0	123.5	0.0	T / N	1.0	54.7	54.7	N / Y	0.0	123.5	0.0	54.7	4157.2

Cable Trays:	#	Weight*, psf	Length*, ft	Width*, ft	Depth*, ft	Shielded?	P_z, psf	WL, lbs/ft	Moment Arm, ft	Wind Force, lbs	Wind Moment, lbs-ft
Verizon	1.0	6.0	70.0	2.0	0.5	Y	35.38	0.0	35.0	0.0	0.0
AT&T	1.0	6.0	70.0	2.0	0.5	Y	35.38	0.0	35.0	0.0	0.0
T-Mobile / Sprint	1.0	6.0	70.0	2.0	0.5	N	35.38	17.7	35.0	1238.3	43341

Global Stability Check

Existing Loads:	WL, kips	z, ft	Moment, k-ft
Tank	99.1	41.8	4137.6
Tank Roof	14.0	90.5	1268.2
Total:	**113.1**		**5405.8**

Antenna/Equip. Loads:	WL, kips	Moment, k-ft
Total:	**8.61**	**709.3**

Interaction

Wind Base Shear: Prop.: 8.6 / Exist.: 113.1 = 7.61% < 10%, OK

Wind Base Moment: Prop.: 709.3 / Exist.: 5405.8 = 13.12% < 10%, NG

ALL-POINTS TECHNOLOGY CORPORATION

Project ID: CT141_14170
Site Name: East Windsor 2 CT
Date: 8/17/2023

(Based on AWWA D100-2005)

Resisting Moment due to Self-Weight

TANK WEIGHT: PLATE SIZE / SECTION	#	Thick, in	Height, in	Length, in	Vol., ft3	Wght., lbs EA	Wght., kips tot.
Bottom 1	1.0	0.3125		3421.19	89.1	43655.8	43.656
PL1	1.0	1.302	91.0	2454.17	168.273	82453.6	82.454
PL2	1.0	1.203	91.0	2454.17	155.478	76184.1	76.184
PL3	1.0	1.105	91.0	2454.17	142.812	69977.9	69.978
PL4	1.0	1.006	91.0	2454.17	130.017	63708.4	63.708
PL5	1.0	0.907	91.0	2454.17	117.222	57438.9	57.439
PL6	1.0	0.808	91.0	2454.17	104.427	51169.4	51.169
PL7	1.0	0.709	91.0	2454.17	91.632	44899.9	44.900
PL8	1.0	0.600	91.0	2454.17	77.545	37997.1	37.997
PL9	1.0	0.512	91.0	2454.17	66.172	32424.2	32.424
PL10	1.0	0.406	91.0	2454.17	52.504	25727.2	25.727
PL11	1.0	0.313	91.0	2454.17	40.388	19790.1	19.790
ROOF	1.0	0.3125			120.9	59216.5	59.217

TOTAL = 664.64

Add 2% for Misc. Weights = 677.94 kips

Moment Arm = 33.0 ft

Resisting Moment = 13423.13 k-ft

Overturning Moment = 6115.1 k-ft

Assume Water Tank base plate is 66'-0" diameter

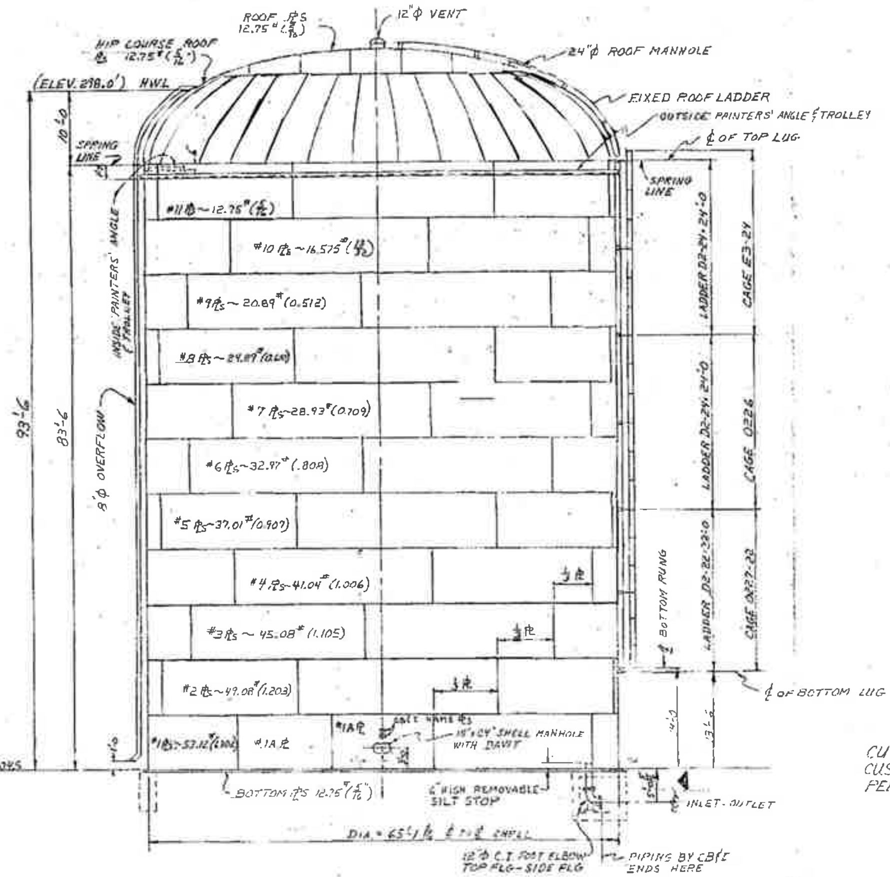
Resisting Moment applied for LC 0.6DL + 1.0WL (ASD/ASCE7-05 LC5)

0.456 < 1.0, OK

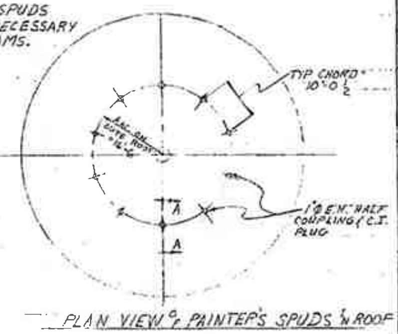
Appendix D

References

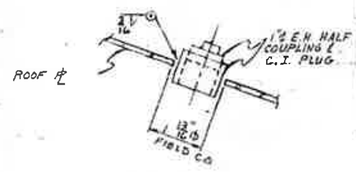
NOTE: PAINTERS SPUDS CAN BE MOVED IF NECESSARY TO MISS ROOF ℄ SEAMS.



ELEVATION



PLAN VIEW OF PAINTER'S SPUDS IN ROOF



SECTION A-A

LIST OF FITTINGS FURNISHED & INSTALLED BY CB&I CO.

No.	DESCRIPTION
1	18"x24" SHELL MANHOLE W/DAVIT
1	24"φ ROOF MANHOLE
1	12"φ VENT
1	12"φ INLET-OUTLET PIPE W/C.I. FOOT ELBOW
1	12"φ REMOVABLE SILT STOP 6" HIGH
1	FIXED ROOF LADDER
1	OUTSIDE SHELL LADDER W/ SAFETY CAGE
1	8"φ OVERFLOW TO GROUND
10	PAINTERS' SPUDS 1½"φ E.H. HALF COUPLING & C.I. PLUG
1	OUTSIDE PAINTERS' ANGLE W/TROLLEY
1	INSIDE PAINTERS' ANGLE W/TROLLEY

EXAMINED BY N.S. DATE 6/6/63
APPROVED In General
BUCK, SEIFERT AND JOST
BY [signature]

GENERAL NOTES

ALL JOINTS TO BE SECTIONED AS REQ'D BY CODE.
SERVICE: MUNICIPAL
CAPACITY: 2,225,000 GALS.
SPECIFICATIONS: AWWA & ENGINEERS
INSPECTION: MILL-NO SHOP-NO FIELD-YES BY CUST'M. REP.
ERECTION: BY CB&I CO. FOUNDATION: BY CUSTOMER
STEEL: PLATES-A283 GR.C STRUCTURAL - A36
CLEANING: COMMERCIAL SANDBLASTING IN FIELD-SEE PAINT SHEETS
PAINTING: SEE PAINT SHEETS P1 & P2
CORROSION ALLOWANCE = 1/16"
FITTINGS: TO BE LOCATED AS SHOWN OR TO SUIT CUSTOMER IN FIELD

CUSTOMER TO FURNISH OILED SAND FOR SAND CUSHION. CB&I CO. TO SPREAD OILED SAND PER DWG. F.

DETAILS & MAT'L FOR ONE TANK - ONE REQ'D

CHICAGO BRIDGE & IRON COMPANY
GENERAL PLAN
55'-0φ x 93'-6 to HWL STANDPIPE
CONNECTICUT WATER CO.
WAREHOUSE POINT CONNECTICUT
CONTRACT NO. 8-8132
DRAWN BY F.T.T. DATE 5-6-63
CHECKED BY WA DATE 5-8-63
DWG. NO. 1 REV. 2

KA-6030

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The KA-6030 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the KA-6030 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the KA-6030 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available

TECHNICAL SPECIFICATIONS

BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm	
DC / AISG		
Passband	0 - 13MHz	
Insertion loss	0.3dB maximum	
Return loss	15dB minimum	
Input voltage range	± 33V	
DC current rating	2A continuous, 4A peak	
Compliance	3GPP TS 25.461	
ENVIRONMENTAL		
For further details of environmental compliance, please contact Kaelus.		
Temperature range	-20°C to +60°C | -4°F to +140°F	
Ingress protection	IP67	
Altitude	2600m | 8530ft	
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.	
MTBF	>1,000,000 hours	
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE	

Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

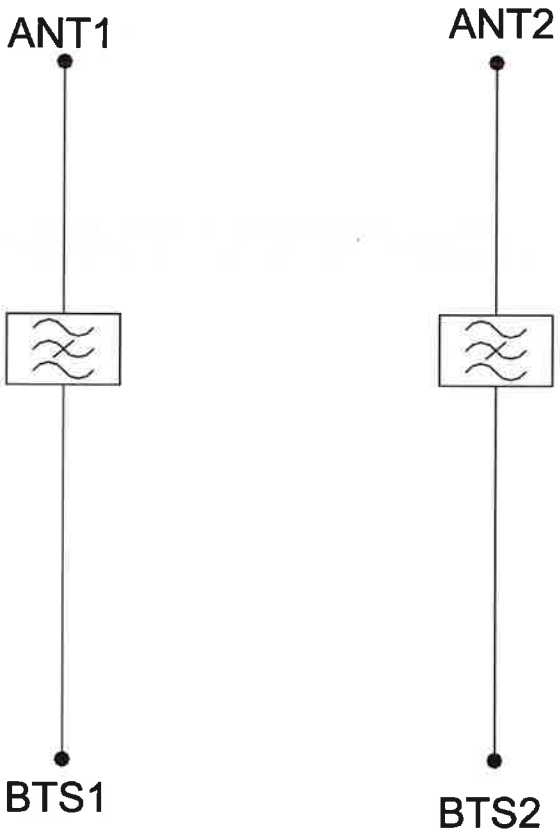
MECHANICAL	
Dimensions H x D x W	269 x 277 x 80mm | 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)
Weight	8.0 kg | 17.6 lbs (no bracket)
Finish	Powder coated, light grey (RAL7035)
Connectors	RF: 4.3-10 (F) x 4
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.

ORDERING INFORMATION

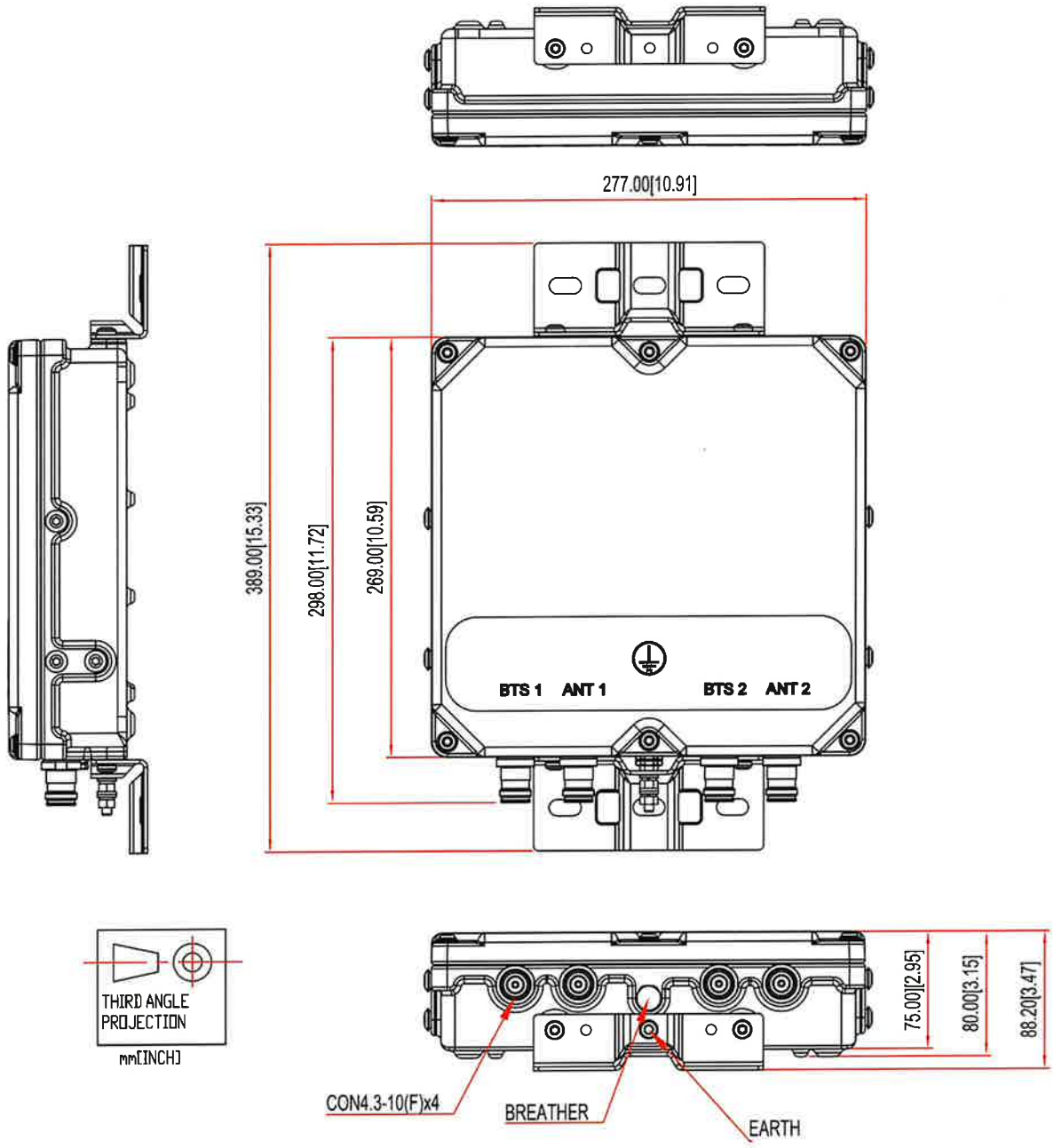
PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
KA-6030-2032	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)

Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

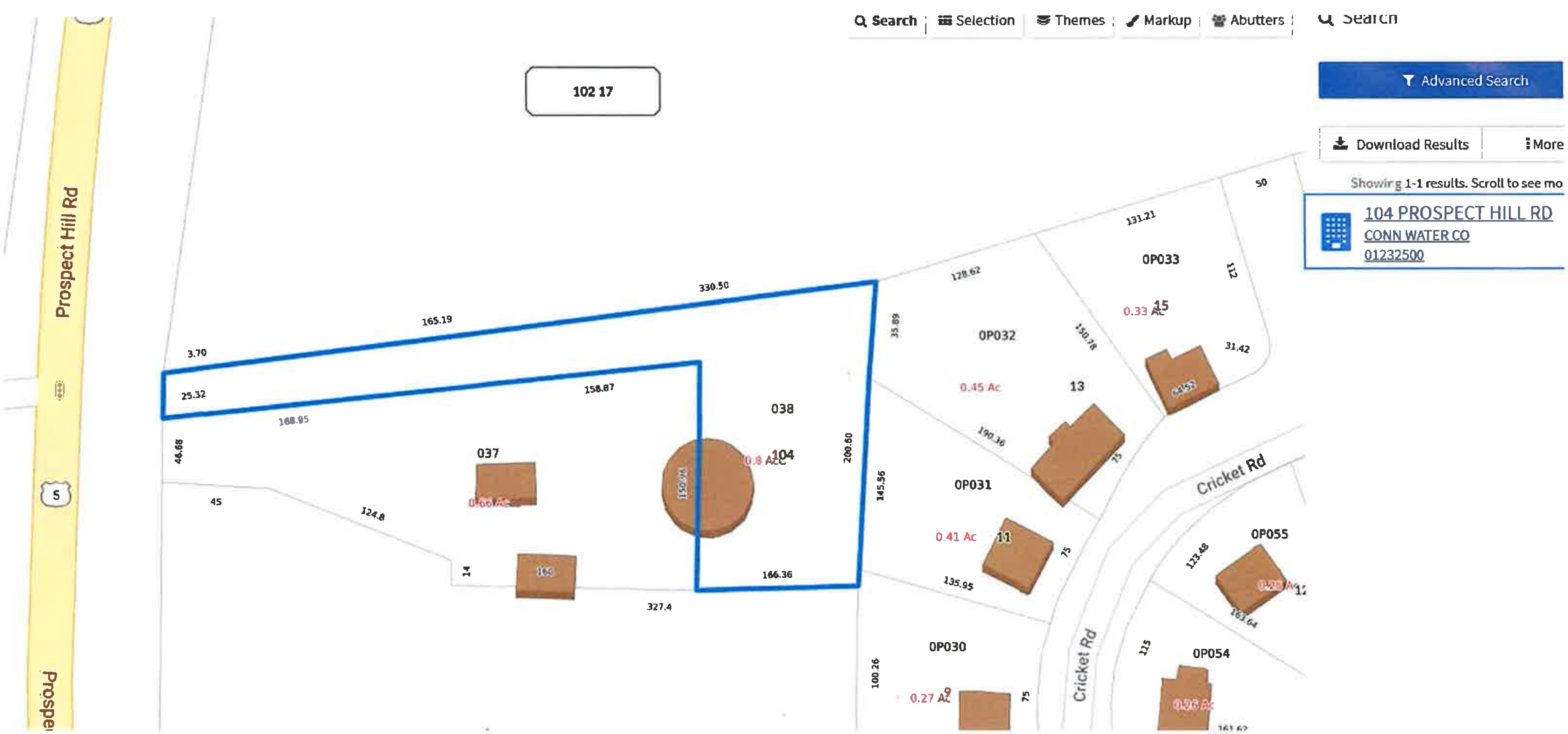
ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM



ATTACHMENT 4



Search
Selection
Themes
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Abutters
Advanced Search
Download Results
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104 PROSPECT HILL RD
CONN WATER CO
01232500
102 17
Prospect Hill Rd
5
038
104
0.8 Ac
037
0P033
15
0.33 Ac
0P032
13
0.45 Ac
0P031
11
0.41 Ac
0P030
9
0.27 Ac
0P055
0P054
Cricket Rd
330.50
165.19
3.70
25.32
168.95
158.87
200.60
166.36
327.4
124.8
45
46.68
14
131.21
128.62
35.89
150.78
190.36
145.56
135.95
100.26
112
50
31.42
123.48
163.64
115
75

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2017.

Information on the Property Records for the Municipality of East Windsor was last updated on 7/2/2021.

Property Summary Information

- Parcel Data And Values
- Sales

Parcel Information

Location:	104 PROSPECT HILL RD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	01232500	Map Block Lot:	102 17 038	Acres:	0.65
490 Acres:	0.00	Zone:	B-1	Volume / Page:	0073/0029
Developers Map / Lot:		Census:	4841000		

Value Information

	Appraised Value	Assessed Value
Land	1,700,000	1,190,000
Buildings	0	0
Detached Outbuildings	0	0
Total	1,700,000	1,190,000

Owner's Information

Owner's Data
CONN WATER CO
93 W MAIN ST
CLINTON, CT 06413

Detached Outbuildings

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
CONN WATER CO	0073	0029	05/22/1958		$0

Building Permits

Permit Number	Permit Type	Date Opened	Reason

Google Map

Unique Id:	01232500
Location:	104 PROSPECT
MBL:	102 17 038
Primary Use:	Commercial Vaca
Zone:	B-1
Acres:	0.65
Appraised Value:	$1,700,000

ATTACHMENT 5

Verizon/East Windsor 2

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	quadient CORRECTION IMI $003.34 06/24/2024 ZIP 06101 043M3220B619 US POSTAGE
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Jason E. Bowsza, First Selectman Town of East Windsor 11 Rye Street Broadbrook, CT 06016				
2.	Ruthanne Calabrese, Director of Planning and Community Development/Town Planner Town of East Windsor 11 Rye Street Broadbrook, CT 06016				
3.	Connecticut Water Company 93 West Main Street Clinton, CT 06413				
4.					
5.					
6.					

OLD STATE HOUSE POST OFFICE
JUN 24 2024
HARTFORD, CT 06103

See Reverse for Instructions